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THE EARLY OPERATIVE TREATMENT OF CHRONIC DISCHARGE FROM THE MIDDLE EAR.[1]

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I.—Chas. J. Heath and His Operation.

It is not long after one's introduction to the surgery of the ear that one realizes how hopeless is the orthodox treatment of suppurative condition of the middle ear, so called. This condition, in many cases serious—serious both as regards loss of hearing, and, to a less extent, because of the dangerous complications that arise out of it—is only too common. However, there is a method of treatment now open whereby this condition can be combated and its complications avoided; and to draw attention to this treatment is the object of this writing.

Speaking generally, treatment is still on the old lines; but of late the great work of Charles J. Heath is influencing, surely if slowly, the opinions of otologists throughout the world. Otologists will doubtless be familiar with his work; but it is desirable to attract the interest of the general practitioner and the public also to what is in reality a national concern.

Having had first-hand experience of Heath and his methods, and having compared these with the old (and still orthodox) procedure, the present writer at least has no doubt of their results. Heath has done wonderful work. He has given the only sound pathology of middle ear suppuration, so called. He has shown, after extensive research, that the mastoid antrum is invariably involved, and that this is the cause of the continuation of the discharge; that the passing of this discharge through the tympanum is the cause of the swelling of its mucosa to varying degrees; that the swelling of the mucosa, in different places, gives rise to a damming off of the discharge from the rest of the tympanum; and that this pus is directed by these dams to the drum perforations, and so into the external meatus. In short, the chronic inflammatory conditions of the tympanic mucosa and the subsequent destruction of the drum, the necrosis of ossicles, attic and promontory, the exposure of the semi-circular canals, the involvement of the facial nerve, as well as fibrosis, etc., with their sequelæ of middle ear deafness and internal ear symptoms, are due to this continual passage of the discharge through the tympanum. He has shown how swelling of the tympanic mucosa interferes with the proper action of the chain of ossicles, and so gives rise to deafness (air conduction). He has drawn attention to the difference in thickness and vascularity between the tympanic and the antral mucosæ, and has pointed out how, because of this difference, one is more likely to find chronic inflammatory conditions of this membrane and of the antral bone than such conditions in the tympanum, and therefore, more likely to find chronic suppuration. He has demonstrated how poorly supplied with nerves the antral mucosa is, and, therefore, how in the early stages of distension of this cavity but few symptoms could be expected. He has shown how small the *aditus ad antrum* generally is, and, logically, using actual specimens, how easy it is for the additus to become obstructed (this obstruction to the outflow may also occur from within the tympanum by the swelling of its mucosa), and so give rise to acute exacerbation of the mastoid disease. This is mainly manifested in pain in the ear. The occurrence of this symptom, with or without cessation of discharge, in the course of a case of otorrhœa is one of Heath's positive signs for operating.

One can easily conceive that a condition of intermittent attacks of earache is due to intermittent blocking and distension of the antrum, and it is no harder to conceive how easily one of these blockings might give rise to any of the dangerous complications of mastoiditis. Conditions such as acute mastoiditis, lateral sinus phlebitis and thrombosis, pyæmia, basal meningitis, cerebellar and cerebral abscesses, and suppuration of the internal ear are far too common an occurrence to need more than mention here.

To sum up, the swelling of the tympanic mucosa is a pathological reaction to the inflammatory exudate, arising in the antrum and passing through the tympanum.

We have, in short, been given a different outlook on the subject; and, looking at it from this point of view, it might seem strange that so simple and so logical a line of treatment as that devised by Heath is taking so long to become generally adopted.

Heath argues, and argues logically, that, since the antral disease is the cause of the continuation of the discharge from the tympanum (and it has definitely been proved by his and other statistics that there is disease of the antrum in all cases of otorrhœa over two or three months' duration—except, of course, in those cases which are due to naso-pharyngeal vegetations, congestion, "catarrh," etc., and to Eustachian blocking), Heath argues that the use of drops and syringing do no more than clean the meatus, and in some cases part of the middle ear, since they cannot possibly "get at" the cause. He therefore treats the antrum by draining it through the external auditory meatus, and leaves entirely alone the normal contents of the tympanum.

Heath argues that the earlier the operation is performed in the course of the disease, the more chance there is to save hearing.

The arguments against this early and conservative treatment of the middle ear, firstly, that it is not justifiable to perform such an operation so early, and

[1] Read at a Meeting of the Queensland Branch of the British Medical Association on June 17, 1917.

secondly, that such procedure will not cure necrosis of ossicles or attic disease in advanced cases, can, the present writer contends, be satisfactorily dealt with.

In the first place, there are some medical men who argue that, seeing that some cases "clear up" on the "drop and syringe" treatment, the cures claimed by Heath as brought about by an early operation should not really fall to his credit. We have only to recall cases which cease discharging under this "drop" treatment to realize that this cessation generally occurs very shortly after the acute attack of otitis media, *i.e.*, these cases have not arrived at the chronic stage. Moreover, in a great proportion of these cases, relapses are the rule. Some cases, it is true, are free from further trouble; but these are not in a sufficiently high proportion to warrant our adopting a "wait and see" policy.

Do we adopt such a policy in the treatment of acute appendicitis, or any other acute abdominal condition? Does the medical man, speaking generally, hold that the operation in cases of appendicitis, even of sub-acute forms, is not justifiable?

Bearing this in mind, let us turn to the condition under discussion. The following facts present themselves for examination: Firstly, in all cases of chronic otorrhœa the antral disease is the cause of the continued discharge. Secondly, if the condition is allowed to continue, severe complications may arise, some causing even death, but more frequently deafness, from destruction of the contents of the middle ear or disease of the internal ear, chronic headache, vertigo, etc.

The logical method, therefore, is an early treatment of the antral disease.

The operation was devised to prevent such conditions from developing. And is not the trend of modern medicine to prevent rather than cure? In this case the object is to prevent the destruction of hearing, and to a less extent the awful complications. These latter are all too frequently found in closely populated districts.

As regards the results of operative treatment of early cases of chronic suppurative otitis media or otorrhœa, the present writer's experience is that they are all that could be desired: the hearing returns, the discharge ceases, and the operator has, to say the least of it, done something definite in the direction of preventive surgery.

Let us now deal with the second objection.

That such conditions as are found in advanced cases are benefited is shown by the fact that many cases have been cured entirely by draining the mastoid antrum. Granulations have disappeared from the middle ear, and perforations of the drum have closed, while other cases of advanced necrosis, cholesteatoma, etc., have, if nothing else, greatly improved all round, the amount of improvement in hearing being in proportion to the fibrosis, etc., occurring round the footpiece of the stapes, as also to the adhesions and ankylosis of ossicles, the involvement of the internal ear, etc. It has been the writer's good fortune to see patients operated on by Mr. Heath, patients who had formerly had chronic discharge from the ear for as long a period as twenty-five years, and who improved beyond recognition by the simple draining of the antrum. This great improvement, it is true, does not always occur, since delay has often resulted in the destruction of ossicles, etc., etc. Heath did not devise his operation to meet the requirements of advanced cases. He does a more logical thing. He strongly advises an early operation to avoid these all too frequent complications.

The "Heath" operation can readily be converted into a complete mastoidectomy should the occasion demand.

Not having space here, it is not the intention of the writer to defend the Heath operation as compared with the radical operation; all he wishes to do is to record that, having seen Heath and his work in all its stages, for the reasons given above, he cannot but support the early operation. Moreover, even in the advanced cases, and before performing the radical operation, he would give it good consideration, and perhaps trial.

Heath has been accused of being an enthusiast. He pleads guilty to such a charge; but is it not enthusiasm that gets things done, that finds the way, while caution, afraid of a poor result, gets no result at all?

Let us enquire now what the advantages are of this operation over the complete and the incomplete operations.

In the first place, the incomplete (Schwartze) operation may reasonably be discarded as not complete. The writer on one occasion had two cases under his charge, which, some years after a Schwartze operation had been performed, had developed, in the one case lateral sinus thrombosis, and in the other cerebellar abscess. In both cases death resulted. Indeed, the operation does not always allow of complete surgical treatment of the antrum, *aditus*, etc.; nor does the operator arrive, during the performance of this operation, at any information concerning the condition of the middle ear.

The comparison between the radical and Heath's operation can be made shortly. The radical operation does not aim at the conservation of hearing, but at the eradication of the advanced disease; it is not used until the disease is advanced. The Heath operation, on the other hand, has as its first aim the preservation of hearing, combined with a safe treatment of the mastoiditis. This treatment has been shown by results practically always (except in the most advanced cases), to cure the inflammatory process in the middle ear, and this by removing the cause, *viz.*, mastoiditis. In this respect, therefore, the earlier the operation (within reason, of course) the better will be the result.

We have in the latter operation applied ourselves to the removal of the cause, and have so placed the patient out of danger of complications. We have preserved the sound-conducting apparatus, have removed the minimum amount of bone, and left practically an invisible scar, and no deformity.

Heath has wished for some years to draw the attention of medical men to the fact that proper attention has not been, and is not yet, given to this subject, hearing has been been allowed to go gradually; drops and syringing (in ignorance of the true pathology of the condition) have been ordered; and, when

the condition gets bad enough, the complete "radical" operation has been performed, and all chance of improvement in hearing has been done away with permanently.

The writer trusts that he will not be thought overemphatic when he says that he considers that this matter has become one of national import. During two years' service with the Expeditionary Force in France, the writer found and dealt with large numbers of men suffering from chronic discharge from the ears. In Great Britain the wastage arising from this disease alone is very great; and from this national point of view the best treatment of this condition is essential. The subject touches Australia as deeply as it touches England. Even if one were to overlook the inconvenience to the patient and his friends of his having a chronic discharge and a liability to complications, and, later, complete deafness, might not a continuance of the old and discredited methods be criminal from a national point of view? The writer's experience in the East End of London and in the Army compels him to hold this opinion.

That Heath's method of treatment is being adopted is shown by these facts: It has now become a routine treatment in some of the fever hospitals of the Metropolitan Asylums Board of the County of London. Papers have been written by competent otologists in England, Scotland and America, each bringing forward fresh data in support of the early operation as done by Heath.

However, though several pamphlets have from time to time been published by Heath and others on the subject, the writer has lately come across a recent book on the surgery of the mastoid process and middle ear, etc., written by two leading English otologists, in which no mention is made of this operation.

To those interested the writer is at liberty to say that Heath's book, delayed through the war, will be published very shortly. In this work the pathology, the indications for operation, and the operation itself will be fully described.

In conclusion, it may be stated that Mr. Heath always welcomes communications, and is ever ready to reply to seekers after information. The writer can speak from personal experience of the man and his methods, and cannot emphasize too strongly the kindly, generous and patient nature of this great aural surgeon.

II.—The Heath Conservative Mastoid Operation.

Preparation is carried out as in ordinary cases.

Removal of hair. Unless the hair comes very close to the attachment of the auricle it is left unshaven.

The skin is treated as elsewhere.

Heath's rubber head-cover. The auricle is pulled through a small hole in a rubber sheet, and the sheet is then adjusted and tightened by two suitable head clamps, in such a way as to leave an elliptical area, about 2 cm. (¾ inch) in its greatest horizontal diameter, behind the attachment of the auricle.

Anæsthetic is given conveniently with a Junker apparatus.

Skin incision. The auricle is pulled forward with the left hand, a secure grip being obtained by using a flat swab. For this purpose Heath uses cotton gloves while operating. The skin incision commences above, a little in front of the level of the anterior border of the meatus, and is continued round in the crease between the auricle and the mastoid process. It is continued for a greater or lesser distance into the lobule of the ear, as the case demands. This incision should be through the skin only. A little more bleeding is met with here than would be the case if the incision were made further back.

After controlling all hæmorrhage, a careful dissection is made through the deep fascia. The lower border of the sheath of the temporal muscle is defined and left uninjured. This muscle, with its sheath, can be retracted, if necessary. The pericranium is dealt with as follows: A straight incision is made from the region of the meatal spine, and carried horizontally out for about 1.25 to 2 cm. (½ to ¾ inch), meeting the skin incision, which has stretched backwards. A curved incision is made along the posterior border of the bony meatus; and a third incision is carried from the lower border of the meatal incision parallel to the first incision, and as far out as the skin will allow. This pericranial flap is then raised by means of Heath's pericranial elevator. The flap, together with the posterior skin margin, is gathered up and drawn back by Heath's special epicranial clip. The area of bone thus exposed, 2 cm. (¾ inch) horizontally by 1.25 cm. (½ inch) vertically, is all that is available, and all that is required. Through it the necessary bone is removed, and the manipulations done.

The prominent and strong coronet ligament, first described by Heath, will be seen attached at one end around the cartilagenous meatus, and firmly adhering at the other to the suprameatal spine. This is divided.

Heath now separates the cartilagenous meatus from the bony meatus by means of a special separator. The attachment internally is torn through, care being taken not to damage the cartilagenous tube. This is held forward by means of a special retractor.

The landmarks having been made out, the bone is removed from below upwards with a broad gouge, the detached pieces being lifted up by forceps (but not scooped out by the gouge, as is frequently done).

The operator should constantly verify his position; and, if there is a posterior perforation, this should be done, if possible, by passing a suitably bent, thin, silver probe into the antrum. Having opened up the antrum, the operator again verifies his position by using the probe in the reverse direction, *i.e.*, from antrum to tympanum.

The operation is then carried on to the removal of all involved mastoid cells, or those which are likely to become in any way receptacles for pus draining from above, as is the usual procedure in ordinary mastoid operations. The mucous membrane of the antral wall, and also of the *aditus ad antrum* is removed by suitable burrs. If the condition requires it, the cavity is swabbed out with carbolic acid of suitable strength. Mr. Heath uses 50% or pure liquid carbolic acid.

The position now is similar to that in the Schwartze operation, except that the skin incision is further forward, while the bone removed is the minimum, and the cartilagenous meatus is detached. There is a bridge of bone between the excavated antrum and the meatus, and Heath removes this to within about 0.6 cm. (¼ in.) or less of the tympanic ring. He uses a special pair of bone forceps for removing the central portion, and trims up the edges with a gouge, which has a concave cutting edge, so as to minimize as far as possible any damage to the drum from the slipping of the instrument, etc.

Should the antrum and cells removed be on a higher level than the floor of the meatus, the bone-removing part of the operation is completed. If it should be otherwise, the floor of the meatus must be bevelled down to the required degree, care being taken not to injure the facial nerve. It is only in this stage of the operation that the facial nerve is at all in danger of being injured. Heath protects the drum during this stage of the operation by using his drum shield.

The making of the meatal flap is now proceeded with. The point which Heath emphasizes is that there should be no part of the flap extending into the antrum; and he even goes so far as to say that, rather than allow a portion of it to occupy the upper part of the excavated antrum, it is better to have no flap at all.

The cartilage is punctured with a special knife, and the incision is carried upwards and outwards well into the concha, so as to allow a drainage tube of large calibre to be left in position without causing pressure pain. Heath uses a tube as large, if not larger, than the little finger. The importance of this large tube is that the meatal opening is kept wide; for this allows of free and painless access to the external meatus, as also to the antrum, during the after-treatment. The hæmorrhage from the upper margin of the flap incision is controlled by the use of artery forceps with blades curved so as to be out of the way during the following manipulations.

A cannula of about 1 mm. bore, and with the tip surrounded by a ring of very small drainage tube, to secure an air-tight connexion, is next inserted into the *aditus*, viâ the antrum; and by means of an attached rubber ball and tube, air, and afterwards sterile normal saline solution, are forced through the tympanum. By observing the drum one can see if the way is blocked; and if it be blocked, it may be necessary to incise the drum below. The pathological contents of the attic and *aditus* are forced out. If necessary, the middle ear can be examined by means of a bent probe and by a small mirror, viâ the antrum. These proceedings, in addition to cleaning out the attic, etc., give the operator an idea of the condition of the middle ear.

Heath places small cotton-wool mops in the antrum and meatus, and changes them constantly.

The pericranium is next sutured with a single suture, care being taken to avoid including the cartilage of the concha in this suture, lest chondritis be set up. The selected rubber drainage tube is now cut according to requirements. Heath cuts the internal end square, and rests it upon the "bridge"; the external end is obliquely cut, so as to fit into the vestibule, and so later in the after-treatment, being covered with cotton-wool, it is unnoticed.

The skin margins are brought together with fine black silkworm gut. One is placed at each extremity of the wound, and one in the middle. The spaces above and below are filled in with three sutures each. Heath does not knot the sutures; he simply uses a surgeon's "double twist."

A wet dressing is applied externally.

On the next day the stitches are removed by special scissors, and the external dressing is changed. After this a daily internal dressing is done.

As it is to a large extent upon the after-treatment of these cases that their success depends, Heath insists that the surgeon should either attend to this himself or see that only competent dressers act for him. Hospital experience shows how necessary this is.

Heath avoids as far as possible all syringing of the ear. His dressings are very simple and are quickly done. Emulsion of iodoform and bismuth in glycerine and solutions of zinc chloride are used, as the condition demands; and the middle ear is blown through (either by using the cannula, viâ the antrum, or by the Valsalva method) from the second day onwards until the tympanum is free. This varies with the condition.

The tube also is removed and cleaned frequently. It may be necessary to use this tube for many weeks.

As it has been the writer's good fortune to see Heath operate, to be present at his first and subsequent dressings, and to see his old cases in his consulting-rooms, he can vouch for the eminently satisfactory results obtained by the above method.

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NOTES ON THE RELATIONSHIP OF OPTICIANS TO THE PROFESSION AND TO THE PUBLIC.[1]

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Profession in this title really means ophthalmologist or ophthalmic surgeon. We all know that medicine includes so wide a range that it is impossible for any one man to be an all-round expert. In no department of medicine is it more important that a member following it should try to live up to the late distinguished Di Rossi's definition of a modern specialist: "one who possesses a special knowledge in his own department and who is a complete clinician in the whole field of medicine and surgery."

So much as he falls short of the latter part of this definition is his conception of his work too narrow and his diagnosis and his treatment apt to be faulty. He cannot sufficiently conform to the first part unless he has subsequent to graduation gone through a thorough training in the scientific clinical and practical part of eye work, and unless also this initial training has been crystallized into real knowledge, or better, wisdom by personal experience, careful observation and work, including notes of every case he sees.

It is perhaps taking a biassed attitude to assume that knowledge in ophthalmology is apt to be more exact than in other departments of medicine. Certainly progress and results of treatment can be watched very exactly and definitely. It is only possible for those who have, by training, made themselves competent to watch this progress and these results and by experience acquired a power of interpreting them, who can fully appreciate a question, such as I am trying to put before you to-night.

There is a danger, therefore, that with the best intentions in the world a majority of the profession may fail to put sufficient value on the points of essential importance. If we are to help the public and our legislators to arrive at correct conclusions we must first assure ourselves regarding these.

What I wish to make my colleagues in this and every other State accept are the following conclusions, which I seem to have been lately repeating *ad nauseam*.

1. The relationship of opticians to oculists is entirely parallel to the relationship of chemists to all medical men.

2. The real work of opticians is to dispense oculists' prescriptions, *i.e.*, to grind lenses of all varieties, to put these into spectacle frames, and fit them to the face of the patient, as well as to centre the lenses correctly. It is very expert work, and we are all indebted to the opticians who dispense our prescriptions accurately for us.

3. It is no more their work to prescribe glasses than it is a chemist's work to prescribe medicine.

4. To register opticians, therefore, as sight-testers would be parallel to registering chemists as prescribers of medicines.

5. No amount of training, short of a complete medical training and qualification as a basis, would justify the registration of opticians as sight-testers, *i.e.*, the most complete training in mathematical and practical optics would not suffice.

6. It is inexpedient and would be inconvenient to prevent chemists from doing a certain amount of counter-prescribing, and it would be also inexpedient and inconvenient to forbid opticians to supply spectacles except to oculists' prescriptions. But in each case, while they are unregistered to do such work, the patient takes the blame if harm results from directly seeking their aid.

7. If either chemist or optician were registered to do prescribing on his own account, then the authorities registering him would be saying, this man is competent to do this work. The Government, therefore, would take the blame, and the Board registering him would be merely the agent of the Government in the matter.

How any medical man could accept a seat on a Board which registered men to do work for which he considered them unfitted is more than I can comprehend.

8. It is not my purpose to outline the reasons against the registration of chemists as prescribers of medicines. It is to be assumed that all members of the profession consider them so abundantly conclusive as to require no discussion. In fact, the arguments are as obvious to them as those against the registration of opticians as prescribers are obvious to me.

But I do want to supply reasons for the parallelism which I have declared to exist.

Were the eye a stable optical apparatus, a really expert optician could correct it as well as an oculist. But it is not, below the age of 60 years, a stable optical apparatus. For even those above the age of 60 years, an optician is not really competent to prescribe glasses because the eye is then still liable to disease. At no time is an optician competent to examine an eye and interpret what is to be found there.

The prescription of a correcting glass is treating an eye, and care, accuracy and judgement in such prescribing are constantly resulting in an entire alteration in the comfort, enjoyment and usefulness of lives.

Why then not forbid opticians to prescribe glasses? For exactly the same reason that we do not forbid chemists to do some counter-prescribing. Because in districts where an oculist is not available "half a loaf may be better than no bread." The patient has to take the risk that disease, active or latent, is present, and that the supplying of glasses by an optician may be causing him to lose valuable time in obtaining advice about his eyes. And he has, if below sixty years, to be satisfied with imperfect correction.

In towns where oculists are available both in private and in hospitals, another reason exists. It was given me some years ago by one of our most expert opticians when he said: "We should only be too glad to make up only oculists' prescriptions, if we got enough to do, but we should not then get enough to

[1] Read at a Meeting of the Queensland Branch of the British Medical Association on July 6, 1917.

do, and if we advised all people who came to us for spectacles to consult an oculist, most of them would go to the next optician down the street, we should lose custom and would not be benefiting the patient."

From their point of view the argument is sound. The best opticians do, indeed, advise patients to consult an oculist if they are suspicious of disease or unable to make them see reasonably well; but, unfortunately, it is only when there is very palpable trouble that they can arrive at such suspicion, and thus only occasionally is a patient referred by them to an oculist. Latent and incipient disease is not detected by them or even surmised.

It may be well to actually state here that in talking of prescribing correcting glasses, I refer in this paper almost entirely to glasses required for errors of refraction, and very little, if at all, to purely presbyopic correction. Roughly speaking, all people below the age of 43 have young eyes. After that their accommodation begins, as a rule, to fail them. There are not, however, very many presbyopes who do not possess some error of refraction as well.

It cannot be too strongly insisted on that a large percentage of those who consult oculists directly and who are sent by physicians of high standing to oculists for opinion and advice regarding their state of refraction and the health of their eyes, possess to test types apparently normal vision without glasses.

Very many of them suffer from head symptoms, eye symptoms and other symptoms: entirely owing to an error of refraction. Their ciliary muscles while they are below 40 years are able, except in higher degrees of error, to give them apparently natural vision by accommodation, but the muscular effort necessitated causes the symptoms complained of. It is recognized by oculists that the smaller errors are often more answerable for headaches, etc., than the larger ones. Perhaps because when a great muscular effort has to be made to obtain good vision, it is only made occasionally, when a small one only has to be made it is kept up all day long and the physiological principle of the summation of stimuli comes into play. Each case of refraction has to be judged on its merits. Some cases with large errors suffer no discomfort. Others with small errors suffer tortures until they are corrected. I can give an example of each of these from medical friends of high standing:—

One, aged 36, asked me from mere curiosity to tell him if he had an error of refraction. I examined his eyes and said, "Yes, you have four diopters of hypermetropia at least." "Impossible," he said, "I am a great reader, and have never had a headache in my life. I also possess excellent sight." I found that he could see $^6/_5$ with each eye, and with both, and that his eyes worked as a pair, but I also found that he saw $^6/_5$ with + 4 D for each eye. In other words, with full correction he was immediately able to relax his accommodation and to see $^6/_5$. Probably during his life, between times of observation, his ciliary muscles had learnt to relax all effort; and only worked when asked to do so.

The other friend was 42. He also had $^6/_5$ of vision. He suffered from painful asthenopia and from very distressing periodic dyspepsia and anorexia. He had only a small error of refraction: right eye + 1 D, left eye + 1 D + .25 cyl. He was highly strung, and a keen student, doing much fine work with his eyes. The immediate effect of correcting his refraction for constant wear was to increase his dyspepsia, anorexia and asthenopia, and for a time he doubted me, and thought I had overstepped the mark; but perseverance resulted in complete relief from all his symptoms, and he has since recognized his own peculiar dyspeptic symptoms in others and sent them for correction with a similar result, except for the absence, as a rule, of the initial exacerbation of symptoms. I hope I have said enough to make this point clear. I have recently learnt that amongst some of my ablest colleagues, not engaged in ophthalmological work, the belief obtained that good sight meant no error of refraction. There never was a greater fallacy, and I had thought it exploded long ago.

Furthermore, from our standpoint this evening there are cases without necessarily any real error of refraction, possessed of undiminished vision to ordinary test-types, and whose eyes present on an exhaustive examination evidence of early disease threatening sight and even life. Not infrequently I see cases, especially in young children, with 5 and 6 diopters of swelling in their discs, *i.e.*, with papilloedema to that extent, accompanied by a squint due to paralysis of one external rectus, or to the more difficult squint to diagnose as paralytic, due to paresis of both external recti.

In the early stages these children see $^6/_5$, and they are often brought only because the squint has suddenly made its appearance. The majority of such cases in Queensland are suffering from lead poisoning, the poison being obtained from the powdery paint of verandah railings and ingested when they bite their nails or suck their fingers. As I have urged and recorded, early prompt treatment results in disappearance of the squint, and of the papilloedema, and in good sight. The less prompt the treatment the more marked are the signs of partial post-neuritic atrophy subsequently found in the discs and the less normal the sight. These children may or may not be hypermetropic as well, but the presence of a squint, especially if due to paresis of both external recti, together with swelling or advancement of the discs and to a smaller extent of the retina immediately surrounding the discs, would lead to hypermetropic correction being prescribed if they were taken to an optician, *i.e.*, to the squint being regarded as one resulting from hypermetropia—consequently valuable time would be lost, and blindness, on account of optic atrophy, would assuredly result.

It has been urged by one anxious to belittle my attitude in this matter, that I should not bring forward to support my argument cases I was myself the first to describe as a distinct group. These cases, however, I have observed for years. First before I recognized them to be due to lead, later recognizing them to be lead cases, later still discovering rather belatedly the source and method of ingesting the poison, and still later laying down definite lines for prompt treatment, *viz.*, immediate lumbar puncture, dilute sulphuric acid and salines by

the mouth, and after some days iodide of potassium; but first of all removal from the possibility of ingesting more lead.

It must be remembered that with my Children's Hospital cases added to cases seen in my own consulting rooms, I have seen almost certainly more cases of lead poisoning where the initial clinical diagnosis rests on papillœdema and paralysis of one external rectus than any other medical man in any part of the world. I average at least six or eight a year. Have more than once had four cases under treatment at the same time. In all of these cases, if discovered soon enough, good sight may now be assured, accompanied by good health. All of these, if left to their surroundings, the ingesting of more lead, and untreated, result in optic atrophy with retention of power to count fingers only. These cases I say fortify my argument, and I should be wrong not to use them, especially when arguing against an Opticians' Bill in Queensland.

When papillœdema and squint are due to brain tumour, and we get cases of this, both in children and adults, not only is the sight endangered but life itself. And if the condition be due to a gumma or to gummatous meningitis, treatment, if energetic and early enough, is most gratifying in its results. It is while the sight is still undiminished that treatment should, where possible, begin.

Further, many cases of glaucoma urgently requiring treatment, and even operation, possess practically normal vision in a limited field. They nearly always have an error of refraction, and correcting glasses would be apparently helpful, but really most dangerous, by leading to delay in obtaining advice and treatment. The need for correction has, indeed, in some cases been a factor in inducing glaucoma; but when this has resulted, correction comes too late to cure or prevent advance.

Again, cases of congenital and of acquired syphilis manifesting itself in mild choroiditis and in very fine vitreous opacities, is sometimes in the early stages attended by apparently undiminished vision. It is during this stage that treatment is so urgently necessary. Such cases not infrequently possess also errors of refraction, and apparent relief would result from correction or partial correction of this. The time during which treatment would be likely to restore the eye to a practically normal state would pass, and permanent, serious damage result. In such cases, also, examination of the eyes furnishes an explanation for prolonged bad health, and the treatment which we expect to benefit the eyes has a most gratifying effect also on the general health, converting a comparative invalid into a healthy person.

Regarding the correction of refraction, certain objects must be aimed at. In hypermetropia as much of the error as can be detected should be corrected, if correction be required.

In myopia full vision is to be aimed at; but extreme care taken to avoid over-correction. Where anisometropia exists, extreme care must be taken to equalize the correction prescribed. Where astigmatism exists it requires to be carefully estimated and its axis correctly ascertained.

Opticians may be expected to fail in these directions, first by under correcting hypermetropia, leading to frequent change of glasses, but never to complete correction until presbyopia is reached: secondly, by over-correcting myopia. This also is the rule, and any over-correction of myopia, although followed by good sight and sometimes by temporary comfort, leads to an accommodation strain, which is very apt to cause advance in the degree of myopia. Thirdly, a patient with a small degree of hypermetropic astigmatism is, more often than not, supplied with minus cylinders with axis at right angles to what the axis would be, if the really required plus cylinders were supplied. This, by converting hypermetropic astigmatism into spherical hypermetropia, changes an unequal accommodation strain to an all-round one. The all-round one is easier for the ciliary muscle to make, but accurate correction would not even leave his ciliary muscles that to do.

The idea that it is more expensive to go to an oculist whose object is to prescribe permanent correction until presbyopia is reached is most fallacious. Because when he succeeds in his object, which he often does, the patient has to purchase one pair of spectacles only. Every oculist knows that opticians have to content themselves by correcting very manifest errors, and with a result that the patient is led to expect "a change" of glasses every year or two, and he requires in this instance what he expects.

It would, of course, be possible to give many examples where patients have suffered at the hands of opticians, and it is to be freely admitted that even oculists are fallible mortals, and fail at times to reach their ideals, though we must hope that they are not prone to err.

I have a case to recount, however, which illustrates in a peculiar degree the danger to the public of placing confidence in opticians for advice in cases even of pure errors of refraction. The danger, in fact, of a little knowledge backed up by the confident and apparently conscientious belief that it is sufficient knowledge. The offending optician in this case I believe to be a man of high character, and he, no doubt, thought he was "playing the game" with the poor patient. He is also one who has been very active in his endeavour to obtain registration for opticians as sight-testers in Queensland.

A man of 43, personally known to me, but never previously a patient, came to consult me more than two years ago about his eyes. He showed me a letter to him from this optician telling him that he had treated his eyes with spectacles for some years, that his nerves were affected (neuritis was the term employed), that the eyes were getting worse, and that he strongly advised him to give up his billet in town and go into the country, and live in future a country life, as otherwise his eyes would continue to get worse.

This man was succeeding in his work, was married and had a home of his own. He was most averse to throwing up his prospects in town for a country life. The optician was so confident of his own knowledge that there was no suggestion that the poor man should consult an oculist before taking so

drastic a step. I found that he was wearing glasses to correct hypermetropia and hypermetropic astigmatism, combined with a No. 3 prism, base outwards, for each glass. I found the prisms were unnecessary, and prescribed correction for his hypermetropia and hypermetropic astigmatism with axes of the cylinders many degrees different from those he was wearing, and differing also in strength. I saw this patient once only: more than two years ago. I have ascertained lately that he has since been comfortable, and has had no difficulty in continuing his work in town.

It will be readily admitted that for one optician who would take upon himself such responsibility in the absence of registration, there would be dozens who would do so if the hall-mark of registration were conferred upon them.

It is unnecessary to refer to serious disease affecting life, and where diagnosis is postponed owing to the supplying of glasses by opticians, because this aspect of the question is admitted even by those who do not see more deeply.

I am aware that many medical men would be against the registration of opticians at all. I am content to think that registering them as opticians, *i.e.*, as spectacle-makers, would be an advantage to the public. They do not, however, I gather, desire such limited registration.

The definition of an optician under such registration would be "One who grinds lenses of all varieties and makes spectacles, and who dispenses oculists' prescriptions."

I should favour a penalty for those not registered as opticians who sold spectacles containing other than spherical lenses, but I do not think that even country storekeepers should be prevented from keeping simple spherical lenses in spectacles, suitable for selection by patients requiring ordinary presbyopic correction. I have no belief in vested professional interests. Our profession exists for the good of the public. The interests of the public and of the profession are identical, although not always apparently so. If we oppose anything which is really for the public good, we may be quite sure that we will only delay such reform. It is our duty, however, to oppose, and to, if possible, prevent what we believe will result in harm to the public. That is the object of my paper to-night.

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Reports of Cases.

AN UNUSUAL CASE OF OCCUPATION NEUROSIS.

By J. C. Verco, M.D.,
Consulting Physician, Adelaide Hospital.

W.M., aged 54, a fettler, consulted me on March 30, 1917. He was married, with no history of lues. He was quite well till about eight months before, when he noticed a peculiar stiffness arising in his left leg. This gradually increased until it prevented him from doing his work properly, as well as from walking.

He had had an operation for left inguinal rupture 14 years ago, and diphtheria 15 or 16 years ago. In December, 1915, he was in hospital with septic sore throat for four weeks; his throat was lanced on the left side from within, and an abscess opened on the right side from without.

When seen he had no disease of heart, lungs, liver, spleen or kidneys; no trouble with bladder or bowels. There was no ataxy with shut eyes on either foot, no weakness in any of the muscles of either leg, no loss or alteration of sensation to touch or pain anywhere. His cutaneous and muscle reflexes were quite normal everywhere; his pupillary reactions were natural. There was no mental change and no affection of cranial nerves. He had rather marked varicose veins in both legs.

His complaint was that though he felt perfectly well while in bed, and could do anything he liked with his left leg when lying down, and when he arose and began to walk quietly it seemed all right, yet as he continued walking, and especially if he tried to walk at all quickly, his left leg failed him. It became more and more flexed at the hip and the knee and the ankle, so that it could not be straightened when it was put forward to take his weight, but as he bent forward to put his weight on it the foot came back almost to the position of his right foot. Then he had to lean over on his bent left leg and throw his right leg forward, and lean over on that and swing his left leg forward again as far as he could, but as it was so bent and stiff, he could not reach the ground with it unless he bent his right knee and hip to allow of this. The only two discomforts he felt were an aching in his left *tendo Achillis* and a fatigue in his back. Unless he was very careful to watch this flexed left leg in walking, it would throw him down, especially if he was carrying a heavy weight.

He was many years ago a barman, but for two years after that he was a trucker in the Broken Hill mines, when he had to push a truck from behind, and of necessity did this with first one leg and then the other flexed at the hip, the knee and the foot, but with one just as much as with the other.

For eight years he had been a fettler. His work was to clean iron castings taken from the moulds, chip off projecting pieces of iron and then polish them on an emery wheel. Some of these castings were 18 kilograms (40 pounds) in weight, and nearly a metre in width, and as the wheel was low he had to stoop down, flexing the hip and knee and foot, and carry the castings from just in front of him to a point considerably to his left, so as to grind its one metre edge, and this threw the whole weight on his bent left leg, while his right leg was in a position of abduction to the right and carried almost no weight.

If he walked on his heels and kept his soles off the ground (which could only be done with the knees stiff) his leg was not thrown into spasm, and if he walked on the balls of his toes and kept the heels off the ground he did not get the stiff flexion. But directly he tried to walk in the ordinary way it came on.

By fixing a back splint from the upper part of the thigh to the lower part of the leg, and so preventing flexion at the knee, walking was made somewhat easier and less uncertain, but the spasm was still present and resistance of flexion was fatiguing.

Occupation neuroses far more commonly affect the arm and hand than the foot and leg, as in writers' cramp, piano-players', violinists', flautists', blacksmiths', milkers', seamstresses', tailors', cigar rollers', telegraphists', diamond cutters', barbers' cramps; still dancers on tip-toe get a cramp in the calf, as do also treadle workers in the leg used with their machine.

This is the first case of occupation neurosis I have seen in the lower limb. It is so rare, and so striking as a disease, and so explained by his work that I thought it worth showing and recording.

The Medical Journal of Australia.

SATURDAY, JULY 21, 1917.

The Medical Profession and the War.

The members of the British Medical Association in Australia have replied to the question whether they desire legislation for the purpose of applying compulsory enlistment of the medical profession in Australia for service at home and abroad in a very definite manner. The number of members voting in favour of the proposition is 1,011 out of a total of 1,361. The majority in favour of the proposal is, therefore, 661.

The Federal Committee instructed its Chairman in April last to approach the Federal Government with a view to the introduction of a Bill for the compulsory enlistment of the medical profession for service in the Australian Imperial Force, if three-quarters of those voting and a majority of the Branches were in favour of the proposal. We may be pardoned if we think "Imperially" rather than metrically in this instance. A three-quarters majority of 1,361 votes would be 1,021, and consequently the "Ayes" are 10 to the bad. This represents 0.73% of those voting. It is significant that, while it is very unusual for more than 33% of the members to respond to a plebiscite on ordinary questions, the proportion of members who have replied to the question at issue is approximately 55%. In Tasmania, 63 voting papers were sent out, and 52 replies were received. This is equal to 82.5%. Three-quarters of the members voted in the affirmative in New South Wales, Queensland, South Australia and Tasmania, while the majority in Victoria and Western Australia is a very substantial one.

In view of the fact that so large a number of members of the medical profession have declared themselves in favour of asking for compulsory enlistment of the medical profession in the Australian Imperial Force, it is obvious that the matter should not be allowed to rest. The Chairman of the Federal Committee could, in the exercise of his discretion, take action, or a special meeting of the Federal Committee could be called to determine whether the majority in favour is not sufficient to justify a demand for the introduction of the necessary legislation. We have pointed out over and over again that the requirements of the military authorities cannot be met under the system obtaining at present, and also that the civil population, especially in the public hospitals, is suffering as a result of want of organization in every State save South Australia. The Federal Committee has now a mandate from 74.28% of those who have taken the trouble to reply, to take the necessary steps to introduce the only means by which a sufficient supply of medical officers can be guaranteed for our soldiers. Moreover, it should not be forgotten that the medical officers serving in France and elsewhere were not included in the plebiscite. No one can doubt that they would be in favour of a proposal which would enable the authorities to relieve those who have been serving for two, and even three, years.

The voice of one thousand and eleven men, out of a total of one thousand three hundred and sixty-one men, cannot be ignored. The minority must, therefore, bow to the will of an overwhelming majority in true British fashion. The returns are as follows:—

	"Yes."	"No."	Total.	Majority in Favour.
New S'th Wales	417	133	550	284
Victoria	269	143	412	126
Queensland	111	19	130	92
South Australia	122	20	142	102
Tasmania	39	13	52	26
West Australia	53	22	75	31
Totals	1,011	350	1,361	661

MILK AND MILK FOODS.

The problem of the welfare of infants has attracted a great deal of attention recently, partly on account of the fact that the Departmental Committee has issued an important report on the subject, and chiefly because the war has brought in its train a succession of circumstances demanding a conservation of young life more urgently than ever before. While the war is rendering it imperative for every means to be adopted to build up a strong, virile and numerous generation, it has placed various impediments in the way. The healthiest infants are those that have the healthiest parents. The war is robbing the country of our strongest young men. The healthiest infants are those that are fed by Nature's food, provided by mothers who are themselves in good health and free from worry.

The war has supplied cause for grief and worry in almost every young woman's breast. The healthiest infants are those that are free from all taint of syphilis. The war has undoubtedly begotten more syphilis among the young citizens of our Empire than existed in times of peace. These are but three among many of the obstacles to the rearing of a strong next generation. Care, the application of counteracting influences and the proper direction of good habits may overcome to some extent the baneful results of inherent weakness or poor physique in the father. Tender and skilful management may do much to overcome the effect of worry in the lactating woman. The public has yet to learn the lesson that only under very rare conditions is a mother incapable of nursing her infant successfully, and that the idea that mother's milk disagrees with the infant is rarely, if ever, based on fact. But while this ideal is always to be aimed at, the time has not yet arrived when substitutes can be put aside in actual life. After nine months' lactation it is necessary to provide other food for the baby, and here again the war is presenting new and serious difficulties. An embargo on the exportation from Great Britain of food stuffs, including infants' foods and milks, will result within a very short time in many of the well-known brands of these food preparations becoming scarce in Australia.

It may safely be postulated that next to mother's milk, cow's milk is the best food for infants. Experience has taught that the chemical differences between these two forms of milk are not so great but that infants cannot thrive well on either. But—there is always a "but" in these matters—cow's milk is not suitable for infants under all conditions. In the first place it must be quite fresh, clean and free from contamination. It must be derived from animals proved to be free from tuberculosis and other infective disease. It should be cooled between the time of milking and the time of ingestion. In other words, a good, reliable milk may be difficult to obtain, and, when obtainable, may be expensive. Various means have been employed to overcome some of the difficulties connected with the provision of a reliable fresh milk. There are several brands of condensed and dried milk and of foods of which milk forms the main constituent. For the present, those of English manufacture may be regarded as being almost unobtainable, since future shipments will be stopped until after the war, unless the embargo is lifted. Australia and New Zealand have, therefore, an opportunity to develope an industry and at the same time to supply a want. In this connexion there is a further complicating factor, which is as unnecessary as it is irrational. The Pure Food Regulations in the majority of the States contain a definition of milk based on a mistaken interpretation of the chemical analyses of cows' and human milk. According to this definition, milk is the normal, clean and sweet secretion obtained from the udder of the healthy cow, properly fed, kept and regularly milked. It may not contain less than 8.5% of solids other than fats, and 3.2% of milk fat, and it may not contain any added water nor any other added substance. Manufacturers of condensed and dried milks are required to label their preparations "Unfit for infants" when the constituents of the mixture, after the addition of the prescribed quantity of water, do not conform to this entirely artificial and faulty estimation of the composition of milk. H. G. Chapman and H. S. H. Wardlaw have recently shown that the variation of the protein and fat content in human milk amounts to no less than 164% from the average value. The addition of small quantities of foreign substances, such as lactose, cream, starch, etc., is prohibited for infants' foods, although every children's specialist frequently uses these additions, and takes no exception to their inclusion, provided that the quantities are kept within certain defined limits. The public is therefore being misled by the notice on the label of many excellent infant milk preparations. Condensed milk, such as that manufactured by the Nestlé and Anglo-Swiss Condensed Milk Company, is obviously more reliable than cows' milk bought at an ordinary city dairy or milk shop, and yet the health authorities consider it advisable to force this company to warn the public that it is not to be given to infants under six months of age. This company has recently enlarged its factory at Warrnambool, in Victoria, and is producing very large quantities of condensed milk, the best quality produced by this firm, and indeed by any firm. We are informed that over 700,000 tins were put up last year. The price of the milk is fixed by regulation, and is considerably lower than that paid for a less good milk in England. We would therefore urge on the members of the medical profession to inform the public as widely as possible that the notice which has to be printed on the label simply means that those responsible for the regulations have misunderstood the subject. Then the dried milks, "Lactogen" and "Glaxo," should receive consideration. "Lactogen" is a first-class dried milk, to which cream and lactose is added, and is an Australian product. "Glaxo" is dried milk, and contains all the ingredients necessary for infant feeding. The manufacture takes place in New Zealand. Both are made from full milk, and are prepared with care. Nestlé's also prepare a first-class infant's food from dried milk. There are some so-called dried milks on the market made from skimmed milk. These preparations are naturally deficient in protein and fats, and, notwithstanding the claims of their manufacturers, are, in fact, unsuited as foods for infants or young children. It must be recognized that the best substitute for human milk may not suit a given baby, and, consequently, there is always room for a considerable variety of these food preparations. The names of many well-known foods—Allenburys', Mellin's, Benger's, Neave's, etc.—are too well-known to require recommendation, but unfortunately many of them may soon be unprocurable in Australia. Our present object will be served if the attention of our readers is directed to the two facts set out above: firstly, that excellent milk preparations are being produced in Australia, and, secondly, that the Pure Food Regulations require the inclusion on the label of some of these foods of a notice which has no justification.

LICE AND THEIR DESTRUCTION.

To the laiety the louse is an emblem of dirt, and it causes a shudder because of its associations, rather than because of its dangers. To the hygienist this insect is of importance on account of the fact that it is an intermediate host of the causal organism of typhus fever. It is supposed to live in dirt and on dirt. In reality, the louse is very particular in regard to its diet, which is exclusively of blood, obtained under almost sterile conditions. The association of the body louse with dirt is due to the peculiar habits and life cycle of the insect. The impregnated female lays her eggs in woollen or other clothing at an astonishing rate. The eggs take from seven to eight days to hatch, and this time may be increased in cold weather. Persons who are forced to wear the same clothes for long periods, or those whose habits of cleanliness leave much to be desired, are therefore exposed to infestation, provided that eggs are deposited in their clothing. The hygienic importance of the louse problem is consequently a very real one in war, and especially in trench warfare, since the soldiers are unable to change their clothing and to rid themselves of a brood of lice, unless very stringent measures are adopted. With the object of guiding the military authorities as to the most efficient and the most economical means of overcoming this pest, A. W. Bacot has recently dealt with the life history of the louse and the value of various agents in killing it, before a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine.[1] He has dealt with several points connected with the life and habits of *pediculi humani* or *corporis*, as the efficacy of destructive measures must depend on biological facts. He calls attention to the hatching time, and to the fact that lice can exist without food and apart from any host for periods up to nine days. After hatching the young insects take from ten to fourteen days to attain sexual maturity, and two to four days later the female commences to deposit their ova. Thus the average time from the laying of the eggs until the deposition of the following generation occupies 23 days. Professor Nuttall has arrived at a shorter period of seventeen days. In the next place, Bacot informs us that impregnation is not effective for more than twenty days, and that a female may lay as many as ten to twelve eggs per day. This means that one female louse may lay 300 fertilized eggs, and before she dies at the mature age of 46 days, a family gathering would represent the formidable array of 4,160 individuals. He insists on the important fact that the louse is gregarious. If a louse is allowed to escape from secure keeping, it will endeavour to return to its relatives, even if they are concentrated in the presence of a strongly perfumed insecticide. The home is always in the clothing and not on the skin of individuals. This leads to a comparatively simple problem in the destruction of whole families. Dry air or water at 52° C. will destroy lice and nits within 30 minutes. Water at boiling point will effect the destruction in less than half a minute. Bacot demonstrates quite clearly that the application of dry heat or boiling is the most certain and the cheapest means of ridding clothing of lice and their eggs. The practice of ironing the seams of clothing with a very hot flat iron stands high among the practical measures for dealing with these insects in the case of soldiers in the trenches. While heat must be regarded as the sovereign method, other means should be employed under circumstances which do not admit of the ready application of heat. He has evolved a technique for testing the efficacy of insecticides. This technique appears to us to be the best yet devised, notwithstanding some caustic criticisms of Professor Lefroy. His tests show that the majority of the advertised remedies are either extravagant or quite useless from a practical point of view. He has come to the conclusion that a substance hitherto much favoured, named vemijelli, is not only expensive but is disagreeable, and that it is questionable whether it is more effective than any other heavy grease. "Muhak," Shotter & Jones' powder, Melville's fluid, W. A. Proctor's pastes and fluid, "No Germo" and "Kergold antivermin body belt" have all been tried and been found wanting. In some cases the claims of the manufacturers are regarded as impudent, if not wholly unfounded on fact. Naphthalene vapour appears to be efficient in killing lice, but its action is limited to a very small area around the impregnated cloth. Sassafras oil and crude carbolic acid are both recommended. The former in a 10% watery solution can be emulsified with soft soap, and the emulsion is useful in killing nits. The latter in a 5% emulsion in soft soap apparently gave the best results of chemical destroyers of lice and their eggs. The communication contains other information of interest, on which Bacot has relied to a greater or less extent in arriving at his conclusions. Among these is an important discussion on the biological distinctions between *pediculus capitis* and *pediculus humanus*. In this connexion Professor Nuttall has invited observers in the different parts of the world to send him specimens of lice in large numbers, preserved in 60% or 70% spirit, together with full particulars regarding their source. This is asked for in order that he may investigate the problem more thoroughly, and ascertain whether his present opinion that head and body lice are but races of one species, is founded on fact.

[1] *Proc. Royal Soc. Med.* Vol. X., No. 6. 1917.

MEDICAL INSPECTION OF SCHOOL CHILDREN IN VICTORIA.

The importance of the work of the mediacl inspection of school children and of school hygiene generally is admitted on all sides. This work is being carried out under grave disadvantages by a very small staff of capable medical officers in Victoria at a relatively small cost. Owing to a laudable desire on the part of the Government to economize, the usual annual report for the year ending June 30, 1916, has not been published. Some months ago a few facts were made public through the daily press, but the important details were withheld. We have made applications to the Minister for a typewritten copy of the medical officers' reports, in order

that we could publish a summary for the benefit of the medical profession. Our requests have been refused. The annual report of the Minister of Public Instruction has now been issued, and we note with surprise and regret that the subject of the health of the school children of Victoria has been accorded nine lines in a document of 23 foolscap pages, the cost of which is given at £25. While we have no desire to criticize any action of the Minister taken to prevent unnecessary expenditure, we cannot allow this fact to pass by without registering our disapproval that so important a subject is not recognized adequately.

AUSTRALIAN CHEMICAL INSTITUTE.

We publish in this week's *Journal* an account of the recently inaugurated Australian Chemical Institute. The Institute aims at promoting the interests of the profession of chemistry. It will control the education of chemical analysts and chemical advisers, and seeks power to grant legally recognized certificates of competency. Applications for original membership are being invited from all qualified persons. When the number of members is sufficient, steps will be taken to secure a Charter.

Those who have been trained as chemists have long suffered from confusion with pharmacists and from exploitation by persons wishing to make use of chemical information. The organization of a professional body will have a far-reaching effect in obtaining better payment for chemical services. Those members of the medical profession who have paid attention to the chemical questions underlying medical practice and have made themselves capable of carrying out accurately chemical and biochemical examinations, have found that the remuneration for these services in Australia is fixed at a very different rate from that granted for other kinds of medical work. The Council of the Institute is directed to secure adequate payment for all classes of chemical work. It is hoped that every medical practitioner trained as a chemist, will become a member of the Institute.

Naval and Military.

On July 11, 1917, a double casualty list, Nos. 321 and 322, was issued for publication. The name of Captain Charles Saunders Renwick is included under the heading "seriously injured," and that of Captain Thomas Montague Mansfield under the heading of "ill in hospital." There are no names of medical officers included in the 323rd list, which was issued on July 14, 1917. The total number of names in these three lists is 2,777, and includes 48 of commissioned officers, of whom eight were killed in action.

It has been announced that Captain Noel Edmund Barton Kirkwood has been awarded the Military Cross.

The Award of the Colonial Auxiliary Forces Officers' Decoration to Lieutenant-Colonel (Honorary Colonel) W. W. Giblin, C.B., Australian Army Medical Corps, is notified in the *Commonwealth of Australia Gazette*, No. 110, of July 12, 1917. We understand that Colonel Giblin is the first recipient among the officers of the Australian Army Medical Corps of this decoration. We tender him our heartiest congratulations.

The following appointments are recorded in the same issue of the *Gazette*:—

Australian Military Forces.

Officers who, on appointment for service outside Australia, were serving and are now serving, in the Australian Military Forces.

Second Military District.

To be Honorary Colonel—

Lieutenant-Colonel R. E. Roth, D.S.O., V.D., Australian Army Medical Corps. Dated 6th February, 1916.

Third Military District.

To be Honorary Colonel—

Lieutenant-Colonel A. H. Sturdee, C.M.G., V.D., Australian Army Medical Corps. Dated 19th November, 1916.

To be Honorary Lieutenant-Colonel—

Captain E. B. Allan, Australian Army Medical Corps. Dated 27th January, 1917.

To be Honorary Major—

Honorary Captain R. E. Shuter, Australian Army Medical Corps Reserve. Dated 19th March, 1917.

Sixth Military District.

To be Honorary Lieutenant-Colonel—

Major J. A. Newell, Australian Army Medical Corps. Dated 30th October, 1916.

His Excellency the Governor-General, acting with the advice of the Federal Executive Council, has been pleased to approve of Anthony George Connell being granted honorary rank of Captain in the Army Medical Corps Reserve, Australian Military Forces (temporarily), whilst employed in connexion with the Australian Branch, British Red Cross Society. Dated 24th May, 1917.

The appointment of Edwin Arthur Wilcox to be Honorary Captain (temporarily), whilst employed in connexion with the Australian Branch, British Red Cross Society, which appeared in Executive Minute No. 226/1917, is cancelled.

THE AUSTRALIAN ARMY MEDICAL CORPS COMFORTS FUND.

We have been informed that 2,800 Christmas boxes are being prepared for despatch to the members of the Australian Army Medical Corps in France. This is, of course, in addition to the regular work undertaken by the Depôt, and also to the Christmas parcels for members of the Corps serving at the other fronts and at the bases. It will thus be seen that a considerable amount of money is required, and we plead earnestly with our readers to augment the medical contribution to this excellent fund.

	£	s.	d.
Amount previously acknowledged	19	14	0
Dr. F. J. Owen	1	1	0
Dr. J. I. C. Cosh	2	2	0

News of Men at the Front.

The following is an abstract from a letter received by Dr. Archie Aspinall from Captain ——, Australian Army Medical Corps, dated April 19, 1917, from "somewhere in France":—

I arrived here less than a week ago, and we are much more in the show than at the Base, as this Casualty Clearing Station moved up a few days before I arrived. The work has been very strenuous at times. Albert Dunlop and Chapman were here yesterday; both are well. Eric Aspinall was here to-day; his crowd are within a mile of us, also Wassall's ambulance.

So far we have only been for the most part receiving serious cases—"heads, chests, abdomens, thighs"—so we are being treated well as regards the cases sent to us. "Abdomens" are done as soon as possible, if not too far gone. As we get some of them within two of three hours, the simple perforations of the small intestine do very well. Thomas' splint used for thighs; they are very good for transport; the leg is usually

suspended on "hammocks" of flannel fastened to the bars with tapes (miniature slings like those of a Salter's cradle), a small strip of wood being used as a "spreader" for the flannel at each end of the hammock. We usually insert Carrel's tubes into the wound and bandage the limb to the splint over all. I had about six weeks at the No. 2 Australian General Hospital before coming here. Moseley called the other day, and Austin Curtain, the old 'Varsity footballer, is my tent-mate.

AUSTRALIAN CHEMICAL INSTITUTE.

In response to a widespread feeling among chemists that some organization of this profession was needed, steps have been taken to form an Australian Chemical Institute, with branches in each of the States of the Commonwealth. During the last twelve months committees have been at work framing a constitution. In January, 1917, a conference of the representatives of four States met in Sydney and prepared a draft constitution which has been accepted, with some alterations, by the State committees. Branches have been formed in Queensland, Victoria and New South Wales, and will be inaugurated in the other States during the next few weeks.

The objects of the Institute will be to raise the status and advance the interests of the profession of chemistry, to promote the usefulness and efficiency of persons practising the same, to afford facilities for the better education and examination of persons desirous of qualifying as chemical analysts and chemical advisers, and to obtain power to grant legally-recognized certificates of competency. The headquarters will be in Sydney. The management of the Institute is vested in a Council and Branch Committees. The Council consists of the Presidents of the Branch Committees, a General Secretary and a General Treasurer. The Branch Committees consist of a President, Secretary, Treasurer and four members of Committee. The Council is directed to take steps to improve the remuneration of chemists in private practice and in the employment of the Federal or State Governments or in commercial establishments. The Council is also directed to keep before it the desirability of obtaining a Charter. The Council is given the right, after due enquiry, to expel from the Institute or otherwise penalize any member who has been guilty of disgraceful conduct in a professional respect or other offence which, in the opinion of the Council, renders him unfit to be a member. Notice of such an enquiry must be given to the member, who is entitled to be present and to be heard.

Membership of the Institute is open to the following persons, but admission in each case shall be subject to approval by the Council:—

(1) Graduates of a University of the British Empire recognized by the Council of the Institute, provided that in each case the University course has included not less than three years' study of chemistry.

(2) Persons who have obtained an approved Diploma in some branch of Chemistry granted by a Technical College, or School of Mines approved by the Council.

(3) Fellows or Associates of the Institute of Chemistry of Great Britain and Ireland.

(4) Persons who have satisfied examiners appointed by the Council that they have attained a necessary standard of chemical education.

(5) Persons admitted by the Council without examination for special reasons on the recommendation of the Committee of a Branch.

(6) Until 1st January, 1918, or such other date as the Council may decide, the Institute shall hold no examinations for admission, but the following shall be eligible for admission in addition to those who claim under Clauses 1, 2, 3, or 5:—

(*a*) Lecturers or Teachers of Chemistry at an Australian University, Technical College, or School of Mines, or approved Secondary School.

(*b*) Chemists who are in charge of a Government Laboratory.

(*c*) Chemists who have been in charge of a Laboratory attached to a Commercial or Industrial Establishment for three years.

(*d*) Chemists or analysts who have been in private practice for three years.

(*e*) Chemists who have been employed for three years in a Laboratory as follows:—
University Laboratory.
Technical College or School of Mines Laboratory, Government Laboratory.
Laboratory attached to a commercial or industrial establishment.
Laboratory of a chemist or analyst in private practice.
Provided that such chemists be recommended by the Chemist in charge of the Laboratory.

(*f*) Chemists who have been absent from Australia on War Service may be admitted under Clause 6 without examination after the 1st January, 1918, at the discretion of the Council.

(7) Until the Council and Branch Committees have been elected as hereinafter provided, the power above given to the Council shall be exercised by the Committees now formed in each State and known as Provisional State Committees, each of whom shall deal with the applications for membership of persons residing in their respective States. Members thus admitted shall be designated "Original Members."

The annual subscription will be one guinea per annum, payable on July 1 in each year. Any member on joining may compound for life on payment of fifteen guineas.

Applications for membership may be obtained from the Secretaries for the several States:—

New South Wales: B. J. Smart, Royal Society's House, 5 Elizabeth Street, Sydney.
Victoria: Dr. F. H. Campbell, 475 Collins Street, Melbourne.
Queensland: T. McCall, c/o. Government Chemical Laboratory, Brisbane.
South Australia: E. C. Wood, 79 Currie Street, Adelaide.
Western Australia: G. Tattersall, University, Perth.

All persons qualified to act as chemists are invited to become original members of the Institute.

HOSPITAL TREATMENT OF VENEREAL DISEASE.

The Venereal Diseases Regulations, 1917, No. 2, have been published in the *Victorian Government Gazette* of July 11, 1917, and are held to be in force on and after July 1, 1917. According to these regulations, the managers of the hospitals named below are required to make effective provision for the inspection, accommodation, examination and treatment, free of charge, of all persons suffering from venereal disease who may present themselves at these hospitals, and whose financial circumstances were such that they are unable to pay the ordinary fees charged by medical practioners.

The metropolitan hospitals named in the list are:—

The Melbourne,
The Alfred,
St. Vincent's,
The Women's and Queen Victoria (for the treatment of women only),
The Children's (for the treatment of children under 14 years of age), and
The Homœopathic.

The country hospitals are those situated in Alexandra, Amherst, Ararat, Ballaarat, Bendigo, Bairnsdale, Beechworth, Camperdown, Castlemaine, Clunes, Colac, Creswick, Casterton, Daylesford, Dunolly, Echuca, Geelong, Hamilton, Heathcote, Horsham, Inglewood, Kilmore, Kyneton, Mansfield, Maryborough, Mildura, Mooroopna, Maldon, Nhill, Omeo, Portland, Port Fairy, Sale, St. Arnaud, Stawell, Swan Hill, Walhalla, Wangaratta, Warracknabeal, Williamstown, Wood's Point, Wycheproof, Warragul, Warrnambool, Yarram.

Abstracts from Current Medical Literature.

DERMATOLOGY.

(19) A Case of Leucocythæmia Cutis.

Batty Shaw and D. Loughlin, in the *British Journ. Dermatology and Syphilis*, January-March, 1917, describe a case of *leucocythaemia cutis* in a farm labourer, aged 37 years. The history showed that he had previously been in the army for fifteen years, and had frequent attacks of malaria. The skin manifestations first appeared four months previously, being preceded a few months earlier by joint pains and purple-coloured patches affecting the body. On admission to hospital he had a temperature of 38.3° to 38.9° C., and appeared to be very ill. The skin of the body generally exhibited a brownish pigmentation, and there were soft, fleshy, painless tumours scattered about the face, forearms, neck, forehead, front of the body, arms, and the anterior surfaces of the thighs and legs. On the back only a few of these deposits could be found. In colour, the lesions were either purple, red, or pale pink. There was a shallow ulcer over the sacrum, and a small ulcer was also present on the *glans penis*, but they appeared to be non-syphilitic, and the Wassermann reaction was negative. The only glands found to be enlarged were those in the groin, and this enlargement apparently was due to the ulceration previously mentioned. Both eyes presented sub-conjunctival hæmorrhages, and there were patches of purpura on both legs. Neither the spleen nor the liver could be palpated. The patient's memory was found to be impaired, but no physical signs of disease of the nervous system could be detected. The blood examination was carried out on five occasions, and it was found that the red cells had increased subsequent to admission from 830,000 to 1,800,000 per c.mm. The hæmoglobin content had also increased from 15% to 35%; the colour index varied from 0.65 to 0.98. The red cells showed vacuolation and poikilocytosis. Macrocytes were numerous on two occasions, and absent on three occasions. Microcytes were always present. On two occasions only were nucleated red cells seen. The white cells varied from a minimum of 3,500 to a maximum of 6,200. The microscopical examination of a section from one of the nodules showed the superficial zone of the *stratum reticulare* to be densely infiltrated with cells resembling lymphocytes. In parts of the same region of the skin the lymphatic clefts were dilated, while in other parts the endothelium of these clefts was hyperplastic. Small collections of red cells were also to be noted scattered through this zone. Two months after admission the patient died, and the post-mortem examination revealed nodules affecting the larynx and the back of the tongue. The spleen was universally adherent, enlarged, tougher than normal, and weighed 383 grammes. There was considerable ascites. One of the kidneys had several areas in which multiple abscesses were present. The bone marrow from the centre of the femur appeared rather gelatinous. In certain places the marrow was redder than normal. The author, commenting on this case, states that the diagnosis of *leucocythaemia cutis* is made from the blood picture, which shows severe secondary anæmia without the classical signs of pernicious anæmia, and a qualitative change in the leucocyte picture. To avoid speaking of the case of leucocythæmia or leukæmia with only qualitative and not quantitative changes in the blood, the term aleukæmia has been introduced, but for simplicity sake this case has been shown under the title of *leucocytheamia cutis*.

(20) The Annular Macular Syphilide.

Although attention had previously been called to an annular macular eruption in syphilis, the greatest credit is due to Fournier for his most careful study and description of it, under the name of *erythème circinée tertiaire*. Howard Fox (*Journ. Cutan. Diseases*, April, 1917) states that this eruption appears in the so-called late secondary or tertiary periods of the disease. It has to be differentiated from the annular form of the papular syphilide, seen so frequently upon the face of the negro, and from the early macular syphilide. The lesions of the annular macular syphilide differ from the latter in being fewer in number and larger in size. The lesions consist of circles, which arise *ab initio* as such, portions of circles, and large polycyclic figures which are produced by the coalescence of circles. These at first assume a bright red colour, tending later to a yellowish tone. In the stage of retrogression a certain amount of pigmentation is present. Although desquamation is a lesion which is generally absent, its presence may occasionally be noted in a few of the macules. The areas most frequently affected are the buttocks, sacral region, and the flexor surfaces of the forearms, abdomen, and thighs, while the face and neck, which are common sites of occurrence of the annular papular syphilide, are unaffected. There are no subjective symptoms. The eruption fails to respond readily to treatment, and it has a tendency to recur three, or even four, times. The author reports the case of a woman affected with this particular type of eruption. She first presented herself at hospital with a macular rash, sores in the mouth, and constitutional symptoms. The diagnosis of syphilis was confirmed by the Wassermann reaction, and the finding of the *spirochaeta pallida* in the sores of the mouth. She discontinued treatment after having two intravenous injections of salvarsan and seven intramuscular injections of mercury. Thirteen months later she presented a typical recurrent macular syphilide of the common roseolar type, which soon disappeared. Some months later she again returned to hospital, and there was observed on the abdomen, later spreading to the chest, back, arms and legs, an eruption of superficial rings from three to four centimetres in diameter, the centre showing normal skin and the borders being one to four millimetres in thickness. The lesions were absent on the face and neck. The colour was reddish, with an admixture of yellow. There was neither desquamation nor perceptible elevation of the lesions, and the Wassermann reaction was again strongly positive.

(21) An Unusual Variety of Vitiligo.

J. B. Shelmire (*Journ. Cutan. Diseases*, March, 1917) describes two cases of *leucoderma acquisatum centrifugum*. In one case the patient was a male, æt. 20 years, who had been vaccinated three years previously, and had noticed two years later that the scar began to lose its colour. Simultaneously a similar lesion appeared just above the vaccination mark, and showed a central flat pigmentation. Two lesions resembling the latter then appeared over the right temple, and the hair over them also became white. On the back there were eleven oval or rounded leucodermic spots, the longest of which was about 2.5 cm. in its longest diameter, and contained in its centre a raised pigmented papule of a brownish colour. In the interscapular region there were three rounded areas with these central pigmentations. Leucodermic spots without the central pigmentation were also present on the back, chest, scrotum, dorsal surface of the penis and the mucous membrane of the prepuce. There was no increased pigmentation beyond the borders of any of the spots, and subjective symptoms were absent.

(22) The Roentgen Diagnosis of Metastatic Malignant Disease of Bone.

G. E. Pfahler discusses the possibility to diagnose metastases from malignant disease (*Americ. Journ. Roenty.*, March, 1917). He points out that the changes in the bone are divided into two main groups, *viz.*, osteoclastic and osteoplastic. Metastasis occur with considerable frequency. They are most common in mammary and prostatic carcinoma, though osteoclastic and osteoplastic changes may occur in osteoarthritis of the spine. A differential diagnosis is possible between the two by means of radiography, as, in the osteoarthritic condition the absorption of lime salts is generalized, whereas in the metastatic condition the osteoclastic condition is localized to areas. He discusses the value of a Roentgological examination in all cases where pains occur about the joints, etc., in patients who have been operated on for malignant growth, as the trouble is frequently due to metastatic deposits. He also emphasizes the point that when patients about to be operated on for malignancy com-

plain of any joint, etc., pains, they should be radiographically examined beforehand, as the trouble may be due to metastases and the operation for the primary condition be purely palliative.

BIOLOGICAL CHEMISTRY.

(23) Action of Serum Treated with Parabin.

E. Zunz and C. Mohilevith have observed the effects of treating rabbits with intravenous injections of horse serum treated with parabin (*Journ. Exper. Medicine*, February, 1917). Parabin is a substance separated from agar. It forms a portion of the carbohydrate moiety of agar, and is practically free from nitrogen. Horse serum, allowed to stand for two hours in the presence of 0.5% suspension of parabin in physiological salt solution and freed subsequently from parabin, produces upon intravenous injection in appropriate dose into normal rabbits a prolonged fall of blood-pressure, distinct retardation of the rate of coagulation of the blood, acceleration of the speed of breathing and the expulsion of numerous scybala from the bowels. It is well known that similar symptoms are caused by the injection of horse serum into rabbits which have been sensitized against horse serum. Bordet has already shown that the symptoms of anaphylaxis in guinea-pigs can be produced by the introduction of serum treated with agar or parabin. By suitable control experiments with suspensions of serum or of parabin in salt solution the authors have shown that the symptoms, so closely resembling those of anaphylaxis, are produced only when serum and parabin have remained in contact for some time. If the horse serum is heated to 56° C. for 30 minutes prior to treatment with parabin, the intravenous injection into the rabbit of the treated serum exerts no more influence on the blood-pressure, the respiratory rate and intestinal activity than does the intravenous injection of normal horse serum.

(24) Blood-Proteins in Intestinal Intoxications.

S. H. Hurwitz and G. H. Whipple have studied the partition of the proteins of the blood in dogs in which intestinal obstruction, a closed intestinal loop, peritonitis, pleurisy or pancreatitis has been induced (*Journ. Exper. Medicine*, February, 1917). The authors have measured the amount of total protein, albumin and globulin in the blood of dogs by the micro-refractometric method of Robertson. They have also determined the quantity of non-protein nitrogen present in the blood. They lay stress on the albumin-globulin ratio under different conditions. This ratio is named the protein quotient. The authors present a table recording their results with the blood of 35 healthy dogs. The averaged quotient is 3.0, but the individual numbers vary from 1.5 to 13.3. During the intoxication caused by simple intestinal obstruction or by the formation of a closed loop of the bowel, the relative proportions of the coagulable proteins of the blood are changed. The globulins are increased in quantity so that, at times, a complete inversion of the normal ratio of albumin and globulin may be induced. The protein quotient is always low, and may be many times lower than occurs in healthy dogs. The increased amount of globulin in the blood appears after the onset of complications, such as peritonitis. The authors believe this alteration to be of diagnostic value in acute infections, attended by the sudden liberation and absorption of a toxic exudate. Infections and intoxications, produced by inflammatory irritants, are also accompanied by an increase in the quantity of globulin in the blood. This change is considered to be due to the absorption of the products of the disintegration of the tissues and not caused by toxic substances introduced by the bacterial invasion of the tissues. It does not appear to be related to the degree of resistance developed against the intoxication. The authors draw attention to the great increase in the amount of non-protein nitrogen in the blood in all these conditions.

(25) Amino-acid Nitrogen in the Blood.

J. C. Bock gives the results of 133 estimations of the amounts of amino-acids in the bloods of different species of animals (*Journ. Biol. Chemistry*, March, 1917). Blood from the ox contains on the average 6.5 mg. amino-acid nitrogen in 100 c.cm., from the calf 6.8 mg., from the sheep 7.6 mg., from the pig 8.4 mg., from the cat 8.6 mg., from the dog 7.4 mg., from the chicken 21 mg., from the duck 21.3 mg., from the turkey 20 mg., and from the goose 18.6 mg. Determinations of the quantities in the whole blood, in the plasma and in the corpuscles have yielded the following figures. In the calf the blood contains 6.3 mg. in 100 c.cm. blood, of which equal amounts were found in the plasma and in the corpuscles. In the ox rather more amino-acid nitrogen is present in the corpuscles than in the plasma. In the goose the whole blood gives 21 mg., the plasma 6.3 mg., and the corpuscles 15 mg. In the blood of a chicken there is found 23.8 mg. in 100 c.cm., while the plasma gave 7.3 mg. and the corpuscles 15 mg. Eighteen determinations have been made on the venous blood of healthy persons. The average quantity found is 7.1 mg. in 100 c.cm. blood. The minimal figure has been 6.1 mg. and the maximal figure 7.9 mg. Estimations have been made on six samples of placental blood. The average figure is 9.5 mg. Sixty-three measurements have been made on samples of human blood collected from persons suffering from many different illnesses. The figures obtained have varied from 4.5 mg. to 30 mg. per 100 c.cm. blood. The greatest range of variation has occurred in cases of nephritis. In two patients with enteric fever low figures have been obtained. In jaundice, rheumatic fever, carbuncles, cardiac lesions, hyperthyroidism and cirrhosis of the liver the quantity of amino-acids in the blood is increased. Full details are given of the method of estimating the amino-acid nitrogen.

(26) Absorption of Fat in Depancreatized Dogs.

C. W. McClure, B. Vincent and J. H. Pratt have carried out a study of the absorption of fats from the intestines in partially and completely depancreatized dogs (*Journ. Exper. Medicine*, March, 1917). In this research attention has been paid to a number of conditions which have been held to vitiate the conclusions of earlier experiments. The exclusion of pancreatic juice from the intestine has been assured by complete pancreatectomy, or by bringing the ducts to the surface of the body in partially depancreatized dogs. The absorption experiments have been continued for 10 to 20 days, by which the reliability of the conclusion is much enhanced. An intervening period of four days has been allowed between different stages of an experiment. The total amount of fat, as well as the percentage of the fat involved in each experiment, has been considered in judging of the absorption. Complete protocols are published of some experiments. The results show that dogs with a subcutaneous transplantation of the pancreas discharging and secreting pancreatic juice, absorb no more fat than animals with no pancreatic remnant. No change in the extent of the absorption of fat occurs while a mass of transplanted pancreas undergoes atrophy. After complete pancreatectomy a dog absorbs considerable quantities of fats. When the pancreatic juice is excluded from the intestines, the absorption of fats by the intestinal mucous membrane is much diminished.

(27) Tetanotoxin in Cerebro-spinal Fluid.

Fenestre and P. Gerard have examined the cerebro-spinal fluid from three patients suffering from tetanus, with the object of detecting the presence of tetanotoxin (*C.R. Soc. Biol., Paris*, October 21, 1916). It has been held since the researches of Bard that tetanotoxin appears in the spinal fluid of patients attacked with tetanus. It has even been proposed to verify in this way the diagnosis of tetanus in those cases in which it has not been possible to isolate the bacillus of Nicolaier. The patients suffered from typical tetanus, and one of them died. The cerebro-spinal fluid was introduced into the peritoneal cavity of guinea-pigs and white mice. No morbid symptoms followed any of the injections. The spinal fluid from the subdural spaces of the subject dead from tetanus had no toxic effects. The tetanus bacillus was isolated from the pus of the wound before the death of this patient.

British Medical Association News.

SCIENTIFIC.

A meeting of the Queensland Branch was held at the B.M.A. Rooms, Adelaide Street, Brisbane, on June 1, 1917, Dr. W. N. Robertson, the President, in the chair.

The discussion took place on Dr. Herbert J. Stewart's paper, which had been read on April 13, 1917 (see *The Medical Journal of Australia*, May 12, 1917, p. 393).

Dr. W. F. Taylor asked in what respect paratyphoid A and B differed from typhoid, and whether the inoculation against typhoid had any effect on the disease.

Dr. J. Lockhart Gibson congratulated Dr. Stewart on his paper. Although he had only been Ophthalmologist to the unit, he had gathered much knowledge from his colleagues regarding the general medicine and surgery of the hospital. He spoke warmly of the value to the unit of C. J. Martin. Dr. Stewart had not mentioned what he thought a very important piece of knowledge, viz., that inoculation had practically eliminated typhoid from the Army, and that the cases of the enterica group were practically all paratyphoid. Formerly these were considered mild typhoid. It was hoped that the routine inoculation for paratyphoid A and B as well as for typhoid, which was started during the last part of their sojourn at Lemnos, would also eliminate the paratyphoid. He thought that their attitude to beri-beri was a little more particular and exact than Dr. Stewart had outlined. It was accepted that it was not a diet of rice that was followed by beri-beri in rice-eating countries, but the absence from the rice diet of the constituents of the rough rice grains which were removed by polishing. In fact it had been shown that prepared extracts from rice polishings were quick cures for acute beri-beri cases. C. J. Martin suggested yeast as the most procurable useful addition to the diet of such cases at Lemnos, and it had been employed regularly in the Hospital.

Dr. Graham Brown stated that a large number of ambulatory cases of typhoid fever had occurred in France in men who had previously been inoculated against typhoid. He thought that these cases could do great harm by spreading the bacillus about.

Dr. A. C. F. Halford was sorry that he had not heard the paper read, but had derived much pleasure in reading it in the Journal. He was also pleased to see that it had been discussed in the editorial column of the Journal. He thought catarrhal jaundice was very uncommon in adults, but was common in children. It certainly did often assume the proportion of an epidemic, but was often regarded as being due to indiscretions in diet. He congratulated Dr. Stewart on his paper.

Dr. H. Stewart said that inoculation did not prevent enteric fever, but ameliorated the severity of the disease. There is very little difference between the symptoms of paratyphoid and enteric. The difference was in the temperature chart. The paratyphoid chart simulated the chart of a septic case. True enteric gave early serological reaction, but paratyphoid only gave the serological reaction later when they were recovering.

Dr. Sidney Page said that it was not possible to differentiate between the paratyphoid and typhoid bacilli under the microscope, but they could be differentiated by the sugar tests. Inoculation against typhoid was supposed to be protective for two years.

Dr. Stewart said the convalescence from paratyphoid was the same as in typhoid and the pathological changes almost identical. The death-rate from paratyphoid was considerably lower than from typhoid, and it was a milder illness. There were no cases of hæmorrhagic jaundice in Lemnos. In France it was considered that all cases of jaundice were infective and due to the *spirochaeta haemolytica*. They were not able to find any specific organism in the cases at Lemnos and Egypt. The cases of beri-beri were sometimes very tedious in their convalescence.

The President thanked Dr. H. Stewart for his paper, and recalled an epidemic of jaundice occurring in Queensland some years ago. Dr. Falkiner, of Toowoomba, had read a paper on this disease at that time. He did not think any organism was found at that time.

Dr. R. Graham Brown read a paper entitled "The early operative treatment of chronic discharge from the middle ear (otorrhea), Heath's early conservative mastoid operation." (See p. 43.)

The President thanked Dr. Graham Brown for his paper, and said that although he had been doing Heath's operation for years, he had not done it exactly as Heath had. The great thing was to attack the running ear early. A good many of the early cases got better with the "drop and syringe" method, if the post-nasal space was cleared, and nasal obstruction was corrected. By the early operation the hearing could be saved. The general practitioner should educate his patients up to the importance of a running ear. He would try to treat every case in future by Heath's method before doing the complete operation.

Dr. J. Lockhart Gibson was glad that Dr. Graham Brown had brought up the subject of Heath's mastoid operation. He had adopted it as a routine operation for mastoids since about 1906, and it was comparatively seldom that a complete radical mastoid was now required. He agreed that when it became apparent that operation was necessary, the sooner it was performed the better, and they were less likely to postpone doing a Heath's operation than a complete radical mastoid. Years ago he had adopted MacEwan's methods, then Ballance improved on these and introduced Thiersch grafting of the bone wound. Since Heath described his operation he had discontinued grafting, and had entirely stopped all plugging of the enlarged meatus with either gauze or tampons. He put a half-inch drainage tube into the enlarged meatus after operation, and followed Heath's technique very largely. It was excellent. The hearing results were good. He had cases in which he had done Heath's operation on both ears with to all intents and purposes normal hearing as a result; the hearing was retained after several years. He adhered to MacEwan's burrs for the operation. He used them for the whole of the bone wound. They were perhaps slower than a chisel, but safer. The burrs had to be large, 11 millimetres and smaller. When driven by a motor they worked as quickly as one should work. When a dental engine was used, they were slower, especially in the case of an indurated mastoid. The burr was not used as a drill, but was held like a pen, and shavings of bone removed by working with its sides. Many cases of acute middle ear inflammation were prevented from becoming mastoid cases by prompt puncture of the drum membrane, followed by regular Politzerization. He mentioned a case of acute middle ear suppuration, which was treated in this way, and did not run the usual course of rapid recovery. The patient had been sent by a colleague with the information that he was being treated for syphilis by mercury internally. On his first visit the drum membrane was punctured, and discharge was free. Treatment by Politzerization, etc., was persevered with, but the discharge refused to stop. A positive Wassermann reaction also persisted for six or eight months. The patient would not agree to subject himself to inunction, and Dr. Gibson was not satisfied that a radical mastoid was required. Three weeks after commencing inunction the discharge had ceased, the perforation had closed, and his hearing had returned, and was practically normal. In the post-operative treatment of mastoid cases, the use of Heath's cannula for washing out the middle ear through the aditus, and the use of absolute alcohol to prevent superabundant granulations were most important.

Dr. Graham Brown showed three cases illustrating Heath's operation for mastoid disease. The main features are illustrated by the following notes:—

Case I.—The patient was a man, aged 21 years. When 5 years of age he had an incomplete mastoidectomy performed on the right ear. This was followed by four "scraping" operations. Ever since he had otorrhœa on and off. In April last he presented himself with a large, almost breaking down post-auricular abscess. The patient was extremely ill. A radical mastoidectomy was performed as soon as possible. There was a very large amount of bone destruction, including disappearance of the whole of the middle ear contents. The *dura mater* was exposed in two places by the necrosing process.

Some deformity persisted, and the perception of sound was reduced to hearing a watch at 2.5 cm. (1 inch).

Dr. Graham Brown stated that this case was an example of what might follow an incomplete operation.

Case II.—The patient was an unmarried woman, aged 25 years. The right ear had discharged as long as she could remember. When seen in March, 1917, she had signs and symptoms of subacute mastoiditis. The hearing was nil; a watch was heard on light contact. Heath's conservative mastoid operation was performed. The stitches were removed on the second day and the patient was allowed out of bed on the fourth day. She left the hospital on the 14th day, and attended daily for dressing at the consulting room.

In this case the resulting condition was as follows:—The mastoid antrum was covered with epithelium. There was a perforation in the tympanic membrane, but all discharge had ceased. Hearing had improved to hearing a watch at a distance of about 45 cm. (2 feet 6 inches). He pointed out that this case illustrated the point that the continued disease led up to permanent interference with the sound conducting apparatus. The bone conduction was normal.

Case III.—The patient was a married woman, aged 28 years. Since the age of one year she had had a discharging ear. During the last nine months previous to operation she had continuous discharge, with mastoid pain. When seen on 1st April she could not hear the watch on light contact. A Heath's operation was performed on that date. The stitches were removed on the second day, and patient was up on the fifth day.

The result in this case was that the mastoid antrum was covered with epithelium. There was still a large perforation in the drum and a small amount of Eustachian mucous secretion. The hearing had improved to hearing watch at 1½ metres (5 feet), and there was every reason to believe that it would improve still further. This was a case which demonstrated that even in advanced cases excellent results might be expected.

James Ian Munro Jamieson, M.B., Ch.M., 1914, Univ. Sydney, of "Roma," Leichhardt Street, Waverley, has been nominated for election as a member of the New South Wales Branch.

SCHOOL MEDICAL WORK IN NEW SOUTH WALES.

The Principal Medical Officer of the Department of Public Instruction of New South Wales issued his report for the year 1915 a short time ago.[1] He introduces his subject by referring to the passage through the British Parliament of the "Education (Administrative Provisions) Act, 1907," which imposed on all local education authorities the duty of providing for the medical inspection of the children of public elementary schools. The Act empowered the local authorities to make arrangements with the sanction of the Board of Education for attending to the health and physical condition of these children. The Principal Medical Officer attempts to show that the result of school medical work has been to diminish the proportion of rejected recruits. In the next place, he draws a comparison between the school medical work conducted in New South Wales and that conducted in England, but excludes from his comparison the training of teachers in hygiene, the control of the sanitary condition of school buildings, and the investigation of outbreaks of infective diseases. The school children in New South Wales, including those attending secondary as well as primary schools, and the majority of private schools, are subjected to a medical inspection at least once in every three years. The children found to be physically defective at the examination are treated at a small metropolitan dental clinic, at a travelling dental clinic, at a travelling ophthalmic clinic, and at a travelling hospital. The travelling hospital is said to operate in the back country. "The great majority of the children have to depend for treatment on public institutions, if they can prove they are sufficiently poor, or on lodge doctors, private practitioners and private dentists." The Principal Medical Officer is of opinion that only a small proportion of the children obtain treatment in the absence of school clinics. Arrangements had been made to provide facilities which would enable all school children found to be physically defective to be treated by the officers of the Department in the year 1916. The scheme includes the appointment of 20 full-time medical officers, three part-time medical officers, seven full-time dentists, six part-time dentists, and a number of nurses, dental assistants and clerks. This scheme apparently did not mature in the year 1916.

The Principal Medical Officer calls attention to the position of school medical work in England. The "Education (Administrative Provisions) Act, 1907," imposed a duty on all local educational authorities to carry out medical inspection of the children of public elementary schools. He continues by stating that "for the treatment of those children found physically defective in England and Wales there had been provided at the end of March, 1915, upwards of 350 treatment clinics, including a number of travelling clinics, and a number (figures not available) of clinics or centres for correcting errors of refraction." He gives the total number of medical officers engaged in the work of medical inspection and treatment as 847, the number of medical officers employed in work of a specialist character in connexion with treatment at 424, and the number of medical practitioners who undertake treatment at London treatment centres at 149. As a few of these medical officers hold more than one appointment, the total number of medical officers employed is given: it was 1,428. The Principal Medical Officer compares the relative number of medical officers in England and in New South Wales. In England there is one school medical officer to each 25,000 persons and to each 3,700 children subject to medical inspection. In New South Wales there is one medical officer to each 138,000 persons and to each 23,000 children subject to medical inspection. He holds the opinion that it is a waste of money and time to employ medical officers to examine school children, if this examination does not result in treatment being obtained in a large proportion of those found to be physically defective. He states that the experience of the last few years has forced his Department to arrive at a conclusion, which he maintains had already been reached in other countries, that public institutions, lodge doctors, private practitioners and private dentists could not be relied upon to supply treatment "to any extent of physically defective school children." He quotes in support of this contention passages from the annual reports of Sir George Newman, entirely ignoring the fact that in England the hospitals are charitable institutions supported exclusively by voluntary contributions, whereas in Australia the hospitals receive a substantial portion of their incomes from the State Governments as subsidies. The passages quoted include the following sentences:—

> The increase of work tends to cause difficulty and delay in obtaining hospital treatment, and results in in a number of children remaining untreated. The school clinic still maintains its position as the most generally suitable institution for dealing with children suffering from remedial defects.

The Principal Medical Officer again quotes Sir George Newman to show that in England the establishment of treatment schemes has not interfered with the practice of private medical practitioners. It may, however, be pointed out that the passage quoted is merely an *ex cathedrâ* statement and that Sir George Newman does not adduce any evidence to prove "that the children dealt with have been those who otherwise would not have obtained treatment." Assuming that this statement is correct, the conditions are so intrinsically different in the two countries that the argument used by the Principal Medical Officer is scarcely supported by the reference.

The Principal Medical Officer deals with some of the causes which, in his opinion, render it necessary for the Department of Public Instruction to provide facilities for the treatment of school children. He states that 58.6% of the children examined were found to be suffering from physical defects of a sufficiently serious nature to require treatment. He has found that treatment was obtained for approximately 42% of the defective children, and that in

[1] The publication of this article has been unavoidably delayed owing to want of space.

14.4% this treatment was supplied at a Metropolitan School Dental Clinic. We are informed that of 4,394 children with eye defects, 3,057 failed to obtain treatment; that of 2,559 children with ear defects, 1,891 failed to obtain treatment; and of 9,642 children with nose and throat defects, 7,288 failed to obtain treatment. He quotes figures to show that the failure cannot be attributed to the fact that many of the children live beyond the convenient reach of existing agencies. In the metropolitan area seven out of every ten children with eye defects, seven out of every ten children with ear defects, and seven out of every nine with nose and throat defects remained untreated. In large coal mining districts, where lodge facilities are provided, the proportion of untreated children is stated to be even higher. These figures are regarded as proof that the existing agencies, hospitals, lodge doctors and private practitioners cannot be relied upon to supply the treatment of the children found defective at the medical inspection. The converse of the picture is also drawn. According to the returns of the Travelling Hospital, only 11% of the defective children escaped treatment.

In the next place, the Principal Medical Officer uses the argument in favour of providing treatment for school children that, as the cash value of an educated child at the end of its fourteenth year is approximately £300, it is economical to spend money to remedy the physical defects which may lead to permanent disability and ill-health in order to safeguard the capital.

Medical Inspection.

During the course of the year 80,617 children were examined by the school medical officers at 865 schools. These figures include 3,742 children examined by the staff of the travelling hospital at 112 schools, but do not include the children dealt with by the medical officers of the Travelling Ophthalmic Clinic and Travelling Dental Clinics. The total number of children attending the public and private schools who were subjected to the ordinary medical inspection was 76,875, and of this number 45,049 were found to be suffering from physical defects of a sufficiently serious nature to demand treatment. In the year 1914 the number of children examined was 13,551 more than in 1915. The reduction in the number of examinations is attributed to the fact that one of the medical officers was engaged in military duties abroad during the greater part of the year, as well as to the fact that a large amount of the time of another medical officer was taken up in the medical work of the Children's Court. Emphasis is laid on the experience made that a larger proportion of the children enrolled present themselves for medical examination than attend the schools regularly. In addition to the school children, 619 candidates for positions as teachers were examined medically. In 324 cases the appointment was deferred pending medical or dental treatment, and in each case the individual was admitted into the service after having undergone the prescribed treatment. Of the remainder, 26 were rejected for medical reasons. The Principal Medical Officer is of opinion that the value of the medical examination is shown by the fact that none of the 492 candidates admitted to the Training Colleges had to give up on account of ill-health during the year.

During the course of the year an additional dentist was appointed to the Travelling Hospital, a School Dental Clinic was established in Sydney, a Travelling School Dental Clinic was set up for work in the country, the inspection of school children was extended to aboriginal schools, and the medical work of the Children's Court was taken over by the Education Department. In connexion with the work at the Children's Court, one of the Medical Officers, Dr. Colin Stewart, devoted three half days each week in examining the physical and mental condition of children charged with various offences, and giving advice in regard to these children. This work was formerly carried out by an expert in psychiatry, working under the direction of the State Children's Relief Board, and we understand that it was highly satisfactory. The expert under the old *régime* had a wide experience of the application of the Binet test, and was able to assess the degree of mental deterioration in his chargelings. There is no information in the report whether the test is carried out by the Medical Officer or by an unqualified assistant, nor whether the interpretation of the results is effected out by him.

The Principal Medical Officer gives a summary of the result of the medical inspection of the school children carried out during the year, and appends a number of tables dealing with the details of the work. The total number of children examined was 76,875, and of these 45,049 were notified as suffering from physical defects. This number is smaller than that of the children examined in 1914, and three times as large as that of the children examined in 1913. In addition, 3,742 children were examined at the Travelling Hospital, and 2,671 were found to be suffering from defects. The total number of children examined was 80,617, and of these 47,720, or 59.19%, were suffering from physical defects. The records reveal that 13 Medical Inspectors were at work for part or the whole of the year. The largest number of children examined by any one officer was 10,343; two officers examined more than 10,000 children, one other examined 8,250, three others examined between 7,000 and 8,000 children, while the remaining seven examined 6,870, 5,696, 4,069, 3,873, 3,337, 1,347 and 1,114 children respectively. We have called attention on numerous occasions to the impossibility of an adequate examination by one practitioner of more than three or four thousand children being carried out in one year during school hours, more especially if other duties have to be performed, and time has to be allowed for travelling from school to school. Diagnosis arrived at after so rapid an inspection as must necessarily occur if 10,000 children are inspected are unlikely to be reliable. The tables further reveal that the percentage of children found to be defective varied according to the medical officer from 33.7% to 74.8%. Five of the Inspectors found defects in between 60% and 70%, while three found defects in between 50% and 60%, two found defects in between 40% and 50%, and two found defects in between 33.7% and 40%.

The number of defects naturally does not coincide with the number of children found to be suffering from one or more defect. Taking the total number of children examined, including those dealt with at the Travelling Hospital, 64,517 teeth were discovered to be defective. Ophthalmic defects were diagnosed 5,160 times among the 80,617 children, defective hearing and aural abnormalities were detected 2,445 times, and abnormalities of the throat or nose 14,297 times. One of the most surprising things in the tables is that postural curvature was detected only five times among the total number of children. The experience of orthopædic surgeons is curiously at variance with this finding. May it not be that the explanation is to be sought in the fact that the children are not undressed for the inspection? How a postural scoliosis, unless extreme, can be discovered through the clothes is not explained. There were 543 cases of round shoulders, 16 of lateral curvature of the spine, and 63 of deformities of the limbs. Pediculosis was discovered in 5.4% of the children; the condition was confined almost completely to the girls. Anæmia was diagnosed 958 times. Whether the diagnosis was based on an existing pallor alone or on definite signs is not stated, nor is any information given in regard to the form of anæmia present.

Following-up.

Following-up is said to have been carried out by means of School Nurses in the metropolis. The nurses visit the parents' houses, and in many cases take the children to the various hospitals or to a clinic for treatment. In the country the parents are advised to seek treatment for defects discovered at the inspection by means of special notices sent through the post. In addition, some literature issued by the Department is circulated to parents and the Medical Officers attempt to infuse enthusiasm for the care of the children's health by delivering addresses. It is stated that over one-third of the children who received treatment for the defects diagnosed by the Medical Inspectors were induced to obtain it by the "following-up" methods employed.

A very short chapter on school hygiene is included in the report. The information contained in this chapter is sparse. We do not agree with the Principal Medical Officer that his book on school hygiene will meet the local re-

quirements better than books written in other countries. We note that the book is being used by teachers as a text-book for examination purposes, as well as by students at the Training College.

Infective Diseases.

Reference is made to the prevalence of various infective diseases met with in school children during the year. The Principal Medical Officer states that the various outbreaks of these diseases were investigated by his medical officers in a large number of cases. The schools were visited for this purpose. He also states that out of a total enrolment of 273,482 children, 64,243 were absent from school on account of infective disease. It is not clear whether the Medical Inspectors actually saw these children or some of them, and were able to satisfy themselves as to the accuracy of the diagnosis or not. Since it is unlikely that the already overworked Medical Inspectors could have devoted the necessary amount of time to the task of confirming or refuting the diagnosis of morbilli, rœteln, scarlatina, diphtheria, varicella, ophthalmia, pertussis, parotitis, variola, anterior poliomyelitis, tuberculosis, ringworm, enteric fever and scabies, it follows that the information that this large number of children were affected in this way must have been obtained either from medical practitioners in attendance or from the parents. In the case of the notifiable diseases the information is available through the Department of Public Health, and the responsibility for the control of the disease outside the schools belongs to the Department of Public Health. In regard to the non-notifiable diseases, the information supplied can only be of value if there is distinct evidence that the diagnosis has been made by competent persons, *i.e.*, qualified medical practitioners. In the table appended we find that 29,472 children suffered from morbilli during the year 1915. It would be interesting to learn how many of these children were under the care of a medical practitioner, and in how many cases the diagnosis was made by the parents or neighbours. Unless there is some guarantee of a correct diagnosis in all these cases, the error due to the inclusion of other affections under the heading "measles" cannot be estimated, and consequently the table must be valueless. In the case of tuberculosis, the matter is still more doubtful. As the children are not undressed for the routine inspection, it is impossible for the Medical Inspectors to discover foci in the lungs, and even surgical tuberculosis must escape notice from time to time when one medical inspector has to examine over 10,000 children in one year. In 1915 there are said to have been eight cases of tuberculosis among 273,482 children. It would be wiser to limit this to the more modest statement that eight children were suspected of being infected. The fact that so few cases of tuberculosis in children have been notified to the responsible authority indicates that the diagnosis, often attended with considerable difficulty, is very frequently missed.

From the educational point of view, the question of infective diseases is highly important. The Principal Medical Officer gives some interesting information concerning the number of children absent from school on account of an alleged attack of one or other infective process, or because they had been in contact with sick children. Of the 19,594 pupils compulsorily excluded from the school, 43,711 were the patients and 20,532 were "contacts." The average length of the absence was 4.2 weeks for the "contacts" and 4.7 weeks for the patients. In the year 1914 the loss was not quite so great. Approximately 4.8% of the children were absent from school for a period averaging 5.6 weeks. The Principal Medical Officer complains, with ample justification, of the neglect on the part of certain municipal and shire councils to notify to the head teacher of the school usually attended by any child the fact that he is suffering from an infectious disease, as is required by the regulations of the Public Health Act, 1902.

Of the children subjected to inspection, it was found that 35.6% had been successfully vaccinated, and that 2.7% had been unsuccessfully vaccinated. The proportion of children protected against variola appears to have been approximately the same in 1914.

A scheme was instituted during the year for keeping a continuous record of the heights, weights and chest measurements of girls attending the High Schools in the metropolitan area. No details are given as to how this scheme is to be carried out. The taking of these measurements requires training and care, and, to be of value, must be performed by the Medical Inspector.

Treatment of Defects.

The Department has carried out a certain amount of treatment of the defects discovered at the inspection. During the year 1915 2,358 children were treated at the Travelling Hospital, 2,934 were treated at the Travelling Dental Clinic, 1,834 were treated at the Metropolitan Dental Clinic, and 4,479 were treated in the Travelling Ophthalmic Clinic. In addition, the Medical Officer attached to the Travelling Hospital treated 235 adults and children under school age for emergency conditions requiring immediate attention. The area in which the Travelling Hospital operated is shown on a map appended to the report. The Hospital has confined its attention to a district extending to the north to the level of Wagga-Wagga, to the west to a point close to Corowa, to the south along the coast and to the east to a point close to Tumbarumba. The map is printed on a small scale, and the crosses are large, so that it is not clear whether the Hospital visited important towns or confined itself to country districts. In any case the area covered is freely supplied with medical practitioners in the various centres. The details of the conditions dealt with by the staff of the Travelling Hospital are given in the tables. The defects did not differ from those discovered at the ordinary inspection.

The amount of work carried out in the dental clinics and in the ophthalmic clinic was considerable. The latter visited a number of places to the east and west of the Southern Line, as far south-west as Corowa and a place to the south-west of Urana. It was taken to a number of places in the south-east corner of the State, including Taralga, Queanbeyan, Cooma and Bombala. The Clinic also visited places in the north-east, including Warialda, Bindara and Inverell.

The cost of the treatment scheme of the Department amounted to £4,712, of which £2,714 was expended on the Travelling Hospital and £689 on the Travelling Ophthalmic Hospital. These sums include the amounts spent on salaries, allowances, drugs, cost of travelling, etc. The Principal Medical Officer attempts to impress on the mind of his readers the value of the treatment scheme by praising the work and by publishing extracts from letters from school teachers and from a parent.

Public Health.

VICTORIA.

The following notifications have been received by the Board of Public Health, Victoria, during the week ending July 8, 1917:—

	Metropolitan. Cs.	Dths.	Rest of State. Cs.	Dths.	Total. Cs.	Dths.
Diphtheria	81	2	49	2	130	4
Scarlatina	18	0	16	0	34	0
Enteric Fever	2	0	2	1	4	1
Pulmonary Tuberculosis	18	7	12	5	30	12
C'bro-Spinal Meningitis	3	—	1	—	4	—

QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the week ending July 7, 1917:—

Disease.	No. of Cases.
Scarlatina	10
Pulmonary Tuberculosis	5
Diphtheria	36
Enteric Fever	3
Erysipelas	2
Puerperal Fever	1
Malaria	1
Cerebro-Spinal Meningitis	1

SOUTH AUSTRALIA.

The following notifications have been received by the Central Board of Health, Adelaide, for the week ending June 30, 1917:—

	Adelaide. Cs.	Adelaide. Dths.	Rest of State. Cs.	Rest of State. Dths.	Totals. Cs.	Totals. Dths.
Diphtheria	4	1	30	1	34	2
Pertussis	0	0	11	2	11	2
Erysipelas	1	0	5	0	6	0
Scarlatina	0	0	5	0	5	0
Pulmonary Tuberculosis	1	1	3	3	4	4
Morbilli	0	0	4	0	4	0
Enteric Fever	1	0	1	0	2	0
C'bro-Spinal Meningitis	0	0	1	0	1	0

NEW ZEALAND.

The following notifications have been received by the Chief Health Officer, Department of Public Health, Hospitals and Charitable Aid, New Zealand, for the month ending June 25, 1917:—

Disease.	No. of Cases.
Scarlatina	266
Diphtheria	576
Pulmonary Tuberculosis	156
Puerperal Fever	4
Septicæmia	10
Erysipelas	15
Hydatids	2
Ophthalmia Neonatorum	2
Enteric Fever	32
Cerebro-Spinal Meningitis	1

Vital Statistics.

BRISBANE.

The returns of the Government Statistician of Queensland of the births and deaths registered within the metropolitan area of Brisbane during the months of March, April and May, 1917, have been published in the *Queensland Government Gazette*, Nos. 151, 187 and 221 respectively.

The number of births registered during the three months is 1,519. This corresponds to an annual birth-rate of 37.5 per 1,000 of population. The actual and the relative number of births were considerably higher than in the corresponding months of the previous year, notwithstanding the fact that this did not apply in regard to the births registered in March. The number of illegitimate births was 102, and the illegitimate birth-rate was equivalent to an annual rate of 2.5 per 1,000 of population.

The number of deaths registered amounts to 456. This number was 161 less than the number of deaths registered in the corresponding month of 1916. The death-rate, expressed as an annual rate, works out at 10.9 per 1,000 of population. There were 67 deaths of infants under one year of age. The infantile mortality was therefore 44.1 per 1,000 births. In the corresponding months of 1916 the infantile mortality was very considerably higher. One hundred and ninety deaths took place in the public hospitals and institutions.

The Statistician appends a certain amount of meteorological information, from which it would appear that the total number of deaths is not influenced by either temperature or barometric pressure.

The following information is given in regard to the chief causes of death. There were 103 deaths due to affections of the cardio-vascular system, including 48 from organic disease of the heart and 37 from cerebral hæmorrhage. There were 28 deaths from tuberculosis, 12 from pneumonia, 5 from broncho-pneumonia, 23 from diarrhœa and enteritis, 3 from enteric fever, 3 from diphtheria, 4 from tetanus, 2 from influenza, 4 from syphilis, 1 from scarlatina, 1 from dysentery, 1 from septicæmia and 5 from acute nephritis. The number of deaths from cancer was 46 and from Bright's disease was 6. There were six deaths due to diabetes.

SOUTH AUSTRALIA.

The vital statistics for South Australia for the months of February, March, April and May, 1917, have been issued in various numbers of *The South Australian Government Gazette*. The following information is derived from these four returns.

The number of births registered in the State during the four months mentioned was 3,636, and the average for the corresponding period during the year 1912 to 1916 was 4,097. The birth-rate, expressed as an annual rate, was 24.8 per 1,000 of population. The number of deaths registered during February, March, April and May is 1,353; this compares favourably with the average for the corresponding period of the preceding five years, which was 1,531. The birth-rate, expressed as an annual birth-rate, works out at 9.23. There were 214 infants under one year of age among those who died, and consequently the infantile mortality was 55.8 per 1,000 births.

Diseases of the cardio-vascular system caused 246 deaths. Of these, 62 were due to cerebral hæmorrhage. Among the infective processes, 138 deaths were attributed to tuberculosis, 50 to pneumonia, 22 to diphtheria, 24 to pertussis, 15 to enteric fever, 92 to diarrhœa and enteritis, 6 to influenza, 3 to dysentery and 2 to tetanus, *inter alia*. There were 108 deaths due to cancer, 41 to Bright's disease and 21 to diabetes. Meningitis is not separated according to its form, save that tubercular meningitis is grouped under tubercular affections. There were 17 deaths from meningitis in all. Fourteen deaths were associated with the puerperal condition.

The returns for the city of Adelaide, as usual, are given separately. There were 352 births registered within the city, as compared with 391 in the corresponding months of the preceding five years. The birth-rate would correspond to an annual rate of 26.9 per 1,000 of population. The number of deaths, exclusive of those which took place in public institutions of persons not usually resident in the city, was 220, while the total number was 347. It would appear that the number of deaths is lower than the average for the corresponding season. The corrected death-rate is equivalent to an annual rate of 16.6 per 1,000 of population. The number of deaths of infants under one year was 44, and if it be permissible to assume that the 352 births registered were of infants whose parents usually reside in the city, the infantile mortality would be 125 per 1,000 births. On the other hand, if this assumption be incorrect, the calculation could be made in respect of 49 infants who died within the city, which would yield an infantile mortality of 139 per 1,000 births. This extraordinarily high infantile mortality is all the more striking because the rate for the whole State is only 55.8. It is to be hoped that the mortality among infants during the remaining months of the year will decrease, so that the record for 1917 may coincide with those of previous years.

POST-GRADUATE INSTRUCTION IN VENEREAL DISEASES.

Owing to the prominence given to venereal diseases, brought about by legislation which came into force on July 1, 1917, a number of requests have been received by the Council of the Victorian Branch of the British Medical Association to arrange post-graduate classes on venereal diseases. Accordingly, the Council instructed the Scientific Sub-Committee to draw up a scheme for its approval. This has been done, and the course will begin on August 3, the classes being held twice a week. The course is divided into three parts, and lectures will be delivered on syphilis, gonorrhœa and chancroid.

Division I.—Bacterical aspects of venereal diseases (Dr. R. J. Bull)—(1) Lecture, with lantern demonstrations; (2) further demonstrations and practical work, as far as time will permit.

Division II.—(1) One lecture and demonstration on gonorrhœa in men, with its treatment (Dr. J. A. R. Smith); (2) one lecture and demonstration on syphilis and chancroid in

men, with treatment (Dr. T. E. L. Lambert); (3) one lecture and demonstration on gonorrhœa and syphilis in women, with treatment (Dr. H. Morrison).

Division III.—(1) One lecture, with lantern slides, on skin manifestations in syphilis (Dr. H. W. F. Noyes); (2) one lecture on manifestations of gonorrhœa and syphilis in eye, ear, nose and throat work (Dr. E. R. Sawrey); (3) one lecture on surgical complications of gonorrhœa and syphilis (Dr. B. T. Zwar); (4) one lecture on medical complications of gonorrhœa and syphilis (Dr. R. R. Stawell); (5) one lecture on congenital syphilis and gonorrhœa in children (Dr. H. Douglas Stephens); (6) one lecture on administration of the Venereal Diseases Act (Dr. E. Robertson).

It has been decided to charge £2 2s. for the course in each division, or £5 5s. for the whole course.

Applications should be made to Dr. Konrad Hiller, the Chairman of the Scientific Committee, 85 Collins Street, Melbourne.

THE BRITISH RED CROSS FUND.

The Treasurer of the Victorian Branch of the British Red Cross Society informs us that Lieutenant-Colonel and Mrs. G. W. Cuscaden have contributed the sum of £10 10s. to Lady Stanley's Appeal Fund. We have also to announce a contribution of £1 1s. from Dr. F. J. Owen. The total amount contributed by medical subscribers is now £286 4s.

Correspondence.

THE DUTY OF MEDICAL PRACTITIONERS.

Sir,—On reading the leading article of the issue of *The Medical Journal of Australia* of 7th inst., I am led to ask you for a deeper explanation of the following words which appear: "Men entering the medical profession should realize that they have a higher, a more sacred duty than merely earning a livelihood." Surely every calling, however humble, is sacred in the sight of God. But what I plead for is the unanimity of the profession on this point of sacredness and its real meaning as referring to humbler occupations as well.

Here in Victoria a recent mail has brought me word from our headquarters (B.M.A.) in Melbourne that a battle with the Lodges over the Common Form of Agreement is imminent. I put this information alongside your statement referred to, and I must confess to a state of bewilderment as regards the general "sacredness" of the profession. I am a single man, also an eligible (after I be patched up), but I feel in the sight of God that I am at present doing my duty towards Him (which duty includes all else), and when He sees fit to call me to whatever duty I will not hesitate to go. With apologies for so much space,

Yours, etc.,
F. TIPPING, M.B., Ch.B.

Kaniva, Victoria,
July 10, 1917.

[The sentence quoted bears no meaning beyond that which is obvious. Dr. Tipping apparently overlooks the word "merely." Medical men, like other mortals, have to live. They choose their profession as a means to gain a livelihood, and have an ample right to claim payment for services rendered. This right and the exercise of it are by no means incompatible with the recognition of a duty to humanity. The negotiation with the Friendly Societies is being conducted with a view to an arrangement being arrived at concerning the conditions under which medical attendance shall be rendered to persons of small means who can pay a small contribution at regular intervals, year in, year out. The obligation of the medical officer of a lodge to his lodge patients to endeavour to alleviate sickness and suffering and to prevent death, is just as sacred, *i.e.*, inviolable, as that which he owes to a paying patient. The earning of money is a necessity, but it should not be the primary aim of the practitioner.]

FREE ATTENDANCE ON SCHOOL CHILDREN.

Sir,—I am not in the least satisfied with the arrangement which has been come to between the Education Department and certain members of the New South Wales Branch of the British Medical Association Council, which arrangement was confirmed by a meeting of representatives from the staff of three metropolitan hospitals. At that meeting I urged, but to no avail, that the profession generally should have the opportunity of considering and pronouncing upon a proposal which, in my opinion, affects very gravely the interests of the general practitioner.

The position is this: Formerly, the parents of children who, after inspection, were found to have some remediable defect were sent word on an official form, telling them what the children were suffering from and emphasizing the necessity of medical treatment. Under this system the poor took their children to the hospital out-patients, as they had been accustomed to do, the members of benefit societies consulted their lodge doctors, and the well-to-do went to their private medical attendant. Under the new system, every child without discrimination will be given instructions that it must go to such-and-such a hospital for treatment, and the only barrier to check universal hospital abuse is an academic resolution conveyed to the Education Department that the hospitals will continue to insist that these children come under the usual rules as regards patients. Now this barrier will be of the flimsiest nature. Hordes of children will descend upon these hospitals, guided thither, it seems, by a nurse employed by the Education Department, and it will be left to some unfortunate clerk or messenger to attempt the task of weeding out the goats from the sheep and deciding who shall be admitted to the sacred precincts. He will soon give up the task as a hopeless one, and allow all and sundry to pass through, especially as the parents will have been led to believe that this free treatment is a privilege which has been conferred on them by a benevolent Nationalist and "Win-the-War" Government, and will resent with the utmost bitterness any questioning of their right to this privilege.

As the proposal stands, it simply means that sooner or later about 250,000 children attending public and private schools will be coming to the hospitals for all minor ailments and operations. And when the parents realize what a pleasant and thrifty way this is of obtaining medical attendance, they will clamour to have the same privilege extended to them.

I am not disposed to let the matter rest where it is, and would again urge that a special meeting of the Branch should be called to consider the question.

Yours, etc.,
RICHARD ARTHUR.

211 Macquarie Street,
Sydney, July 17, 1917.

Proceedings of the Australasian Medical Boards.

NEW SOUTH WALES.

The following additional registration has been made under the provisions of "The Medical Act, 1912 and 1915":—

Thomas, Alfred Charles, Mast. Surg., 1917, Univ. Sydney.

QUEENSLAND.

The following have been registered under the provisions of the "Medical Act of 1867" as duly qualified medical practitioners:—

McIlroy, John Black, St. George, L.S.A., Lond., 1886, L.R.C.P., Lond., 1887, M.R.C.S., Eng., 1888.

Nye, Leslie John Jarvis, Artherton, M.B., Univ. Syd., 1914.

Oakeley, William Graham, Toowoomba Hospital, M.B., Univ. Syd., 1914.

Smith, George Pender, Ipswich, L.S.A., Lond., 1892.

Books Received.

THE NEW SYSTEM OF GYNÆCOLOGY, Edited by Thomas Watts Eden, M.D., F.R.C.S.E., F.R.C.P., and Cuthbert Lockyer, M.D., B.S., F.R.C.S., F.R.C.P.; in three volumes; 1917. London: Macmillan & Co., Limited; Crown Quarto, pp. 761, 871 and 875 respectively, with numerous illustrations in colour and in black and white. Price, £6 6s.

KALA-AZAR: ITS TREATMENT, by Upendranath Brahmachari, M.A., M.D., Ph.D., with a Foreword by Surgeon-General W. R. Edwards, C.B., C.M.G., M.D., I.M.S.; 1917. Calcutta: Butterworth & Co. (India), Ltd.; Sydney: Butterworth & Co. (Australia), Ltd.; Demy 8vo., pp. 121, illustrated. Price, 8s. 6d.

THE CAUSATION OF SEX IN MAN: A NEW THEORY OF SEX BASED ON CLINICAL MATERIALS, by E. Rumley Dawson, L.R.C.P., Lond., M.R.C.S., Eng.; Second Edition; 1917. London: H. K. Lewis & Co., Ltd.; Demy 8vo., pp. 226, with 22 illustrations. Price, 7s. 6d.

COMMON DISEASES OF THE MALE URETHRA, by Frank Kidd, M.B., B.C., F.R.C.S., with an Additional Lecture on the Clinical Pathology of Urethritis, by Philip Panton; 1917. London: Longmans, Green & Co.; Demy 8vo., pp. 132. Price, 5s. net.

Medical Appointments.

Dr. Robert James Loosli has been appointed Officer of Health for the City of Camberwell, Victoria, Dr. Basil Kilvington having resigned.

Dr. Charles Thomas Abbott has been appointed Officer of Health for the Borough of Clunes, Victoria, in place of the late Dr. Arthur Edward Blackett Forster.

The resignation of Dr. Cyril Joseph Fallon as Medical Officer, on probation, to the Medical Branch of the Department of Education, New South Wales, has been accepted. Last day of service, 30th April, 1917.

Dr. Frederick William Dean Collier has been appointed Government Medical Officer at Wallsend, in place of the late Dr. H. K. Bean.

Dr. John Richard Talbot has resigned his position as Junior Medical Officer, Hospitals for the Insane, Victoria. The resignation is to date from June 4, 1917.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xix.

Government of Tasmania, Assistant Health Officer.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
TASMANIA. (Hon. Sec., Bellerive, Tasmania.)	Medical Officers in all State-aided Hospitals in Tasmania.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	Brunswick Medical Institute. Bendigo Medical Institute. Prahran United F.S. Dispensary. Australian Prudential Association Proprietary, Limited. National Provident Association. Life Insurance Company of Australia, Limited. Mutual National Provident Club.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Medical Officers to the Selwyn Hospital, North Queensland. Brisbane United Friendly Society Institute. Warwick Hospital.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	The F.S. Medical Assoc., Incorp., Adelaide.
WESTERN AUSTRALIA. (Hon. Sec., Health Department, Perth.)	All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United F.S. Dispensary. Canterbury United F.S. Dispensary. Leichhardt and Petersham Dispensary. M.U. Oddfellows' Med. Inst., Elizabeth Street, Sydney. Marrickville United F.S. Dispensary. N.S.W. Ambulance Association and Transport Brigade. North Sydney United F.S. People's Prudential Benefit Society. Phœnix Mutual Provident Society. F.S. Lodges at Casino. F.S. Lodges at Lithgow. F.S. Lodges at Parramatta, Penrith, Auburn and Lidcombe. Newcastle Collieries — Killingworth, Seaham Nos. 1 and 2, West Wallsend.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, N.Z.

Diary for the Month.

July 21.—Northern Suburbs Med. Assoc. (N.S.W.).
July 25.—Vic. Branch, B.M.A., Council.
July 26.—S. Aust. Branch, B.M.A., Branch.
July 27.—N.S.W. Branch, B.M.A., Branch.
July 31.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
Aug. 1.—Vic. Branch, B.M.A., Branch.
Aug. 3.—Q. Branch, B.M.A., Branch.
Aug. 9.—Vic. Branch, B.M.A., Council.
Aug. 10.—N.S.W. Branch, B.M.A., Clinical.
Aug. 10.—S. Aust. Branch, B.M.A., Council.
Aug. 14.—Tas. Branch, B.M.A., Council and Branch.
Aug. 14.—N.S.W. Branch B.M.A., Ethics Committee.
Aug. 15.—W. Aust. Branch, B.M.A., Branch.
Aug. 15.—Western Suburbs Med. Assoc. (N.S.W.).
Aug. 16.—North Eastern Med. Assoc. (N.S.W.).
Aug. 16—City Med. Assoc. (N.S.W.).
Aug. 21.—N.S.W. Branch, B.M.A., Executive and Finance Committee.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

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